LBT-A70/A70CD/A70CDM/D707/D707CD

SERVICE MANUAL

Australian Model
LBT-A70

E Model
Tourist Model
LBT-A70CD

E Model
LBT-A70CDM

AEP Model
LBT-D707

UK Model
LBT-D707CD

REVISED

- LBT-A70/A70CD/A70CDM/D707/D707CD are composed of following models. As for the service manual, it is issued for each component models, then, please refer to it.

COMPONENT MODEL NAME FOR LBT-A70/A70CD/A70CDM/D707/D707CD

System / Component	LBT-A70	LBT-A70CD	LBT-A70CDM
Tuner	ST-A70		
Amplifier	TA-A70		
Cassette deck	TC-D707		
Graphic equalizer	SEQ-A70		
CD player	CDP-M43 or CDP-C422M	CDP-M43	CDP-C422M
Speaker system	SS-D77AV		

System / Component	LBT-D707	LBT-D707CD
Tuner	ST-D707	
Amplifier	TA-D707	
Cassette deck	TC-D707	
Graphic equalizer	SEQ-D707	
Record player	—	PS-D707P
Speaker system	SS-A707	
CD player	CDP-M43 or CDP-C422M	CDP-M43

SPECIFICATIONS

Supplied accessories	Remote commander (RM-S771) (1) Batteries Sony SUM-3 (NS) (2) FM wire antenna (1) (D707: AEP, IT/D707CD) AM loop antenna (1) System control cord (3) AU BUS cord (1) Audio connecting cord (1) Cord (SPEAKER) (A70, A70CD, A70CDM)

Design and specifications are subject to change without notice.

STEREO COMPONENT SYSTEM

SONY®

PARTS LIST

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

· IT : Italian model

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS *******************************	
	1-501-369-11	ANTENNA (D707:AEP, IT/D707CD)	
	1-501-374-11	ANTENNA, LOOP	
	1-558-271-11	CORD, CONNECTION (A70CD/A70CDM)	
	1-559-533-11	CORD, CONNECTION (A70CD/A70CDM)	
	1-559-552-31	CORD (WITH CONNECTOR) (B) (TA-SEQ)	
	1-574-314-11	CORD (WITH CONNECTOR) (ST-CDP) (D707)	
	1-574-314-11	CORD (WITH CONNECTOR) (ST-PS) (D707CD)	
	1-590-822-11	CORD (WITH CONNECTOR) (ST-TA-TC)	
	1-590-823-11	CORD (WITH CONNECTOR) (ST-TA-TC)	
	1-590-850-11	CORD (WITH CONNECTOR) (ST-CDP) (A70/A70CD/A70CDM)	
	1-690-727-11	CORD (SPEAKER) (A70/A70CD/A70CDM)	
	1-693-106-11	REMOTE COMMANDER (RM-S771) (INCLUDING ※1)	
*	3-350-154-01	CUSHION (TC)	
	3-703-710-41	STICKER, SONY SYMBOL (12) (SEQ)	
*	3-704-350-01	SHEET (STANDARD), PROTECTION (TC)	
	3-707-584-31	COVER, BATTERY (※1)	
	3-754-847-11	MANUAL, INSTRUCTION (A70CDM)	
	3-755-293-11	MANUAL, INSTRUCTION (D707:AEP)	
	3-755-293-41	MANUAL, INSTRUCTION (D707)	
	3-755-293-51	MANUAL, INSTRUCTION (D707CD)	
	3-755-293-71	MANUAL, INSTRUCTION (A70/A70CD/A70CDM)	
	4-920-940-01	SHEET (A), PROTECTION (ST) (A70/A70CD/A70CDM/D707:AEP/D707CD)	
	4-920-940-01	SHEET (A), PROTECTION (SEQ)	
*	4-922-998-01	CUSHION (CDP) (A70CD)	
*	4-929-563-01	CUSHION (ST) (A70/A70CD/A70CDM/D707:AEP/D707CD)	
*	4-929-563-01	CUSHION (SEQ)	
	4-937-945-01	PLATE (TRANSPORT), LOCK (CDP) (A70CDM)	
*	4-941-548-01	LABEL, CLASS 1 (CDP) (A70CD/A70CDM)	
*	4-944-040-01	CUSHION (FRONT) (CDP) (A70CDM)	
*	4-944-041-01	CUSHION (REAR) (CDP) (A70CDM)	
*	4-944-749-01	CUSHION (FRONT) (PS) (D707CD)	
*	4-944-750-01	CUSHION (REAR) (PS) (D707CD)	
*	4-946-092-01	CUSHION (TA)	
*	4-950-064-01	INDIVIDUAL CARTON (PS) (D707CD)	
*	4-952-991-01	INDIVIDUAL CARTON (TA, ST, SEQ, TC, PS) (D707CD)	
*	4-952-993-01	INDIVIDUAL CARTON (TA, SEQ, TC) (D707)	
*	4-952-994-01	INDIVIDUAL CARTON (TA, ST, SEQ, TC) (D707:AEP)	
*	4-952-995-01	INDIVIDUAL CARTON (TA, ST, SEQ, CDP, TC) (A70CDM)	
*	4-952-996-01	INDIVIDUAL CARTON (TA, ST, SEQ, TC) (A70)	
*	4-952-997-01	INDIVIDUAL CARTON (TA, ST, SEQ, CDP, TC) (A70CD)	
*	4-953-047-01	INDIVIDUAL CARTON (SS) (A70/A70CD/A70CDM)	

9-957-120-12

Sony Corporation
Audio Group

English
92G0471-1
Printed in Japan
© 1992. 7

Published by Customer Relations and Service Group

ST-D707

SERVICE MANUAL

AEP Model
UK Model
East European Model

• This set is the TUNER section in LBT-D507/D607/D707.

SPECIFICATIONS

System	FM stereo FM/AM superheterodyne tuner
FM tuner section	
Tuning range	87.5 to 108 MHz
Antenna	75 ohms unbalanced
Intermediate frequency	10.7 MHz
AM tuner section	
Tuning range	MW: 531 to 1,602 kHz LW: 153 to 279 kHz
Antenna	AM loop antenna External antenna terminal
Intermediate frequency	450 kHz

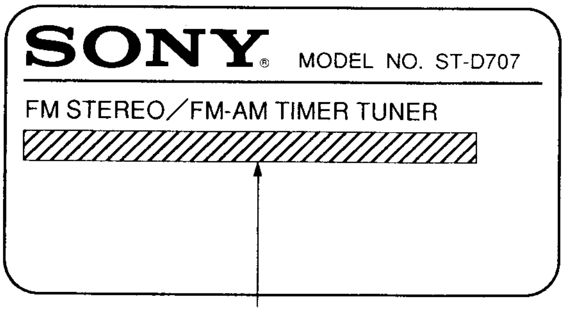
Power requirements	240 V AC, 50/60 Hz
Power consumption	10 W
AC outlet	2 switched, total 450 W max.
Weight	Approx. 2.7 kg (6 lbs 5 oz)
Dimensions	Approx. 355 x 95 x 310 mm (14 x 3¾ x 12¼ inches) (w/h/d, including projections)

Design and specifications are subject to change without notice.

Note
This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

MODEL IDENTIFICATION

— Model Number Portion —



AEP, East European model : AC : 220–230V ~ 50/60Hz
UK model : AC : 240V ~ 50/60Hz

FM STEREO/FM-AM TIMER TUNER

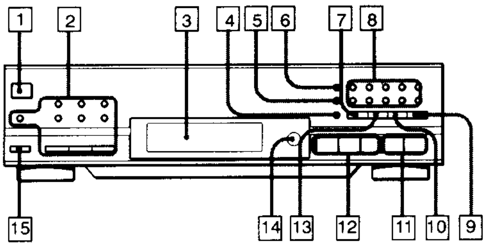
SONY®

MICROFILM

SECTION 1
GENERAL

This section is extracted from instruction manual.

Location of Controls



1 SYSTEM POWER switch (8)
2 Buttons for setting the clock and timer (40, 42)
3 Display window
4 MEMORY button (14)
5 MEMORY SCAN button (16)
6 AUTO TUNING button (12)
7 DISPLAY button (16, 40)
8 Numeric buttons (14)
9 BAND selector (12)
10 ST/MUTE button (12)
11 TUNING +/- buttons (12)
12 SHIFT buttons (A, B, C) (14)
13 CHARACTER button (15)
14 Remote sensor
15 SLEEP button (41)

71

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

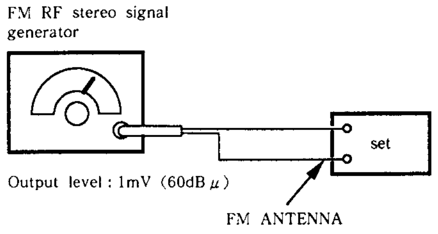
SECTION 2
ELECTRICAL ADJUSTMENTS

FM SECTION

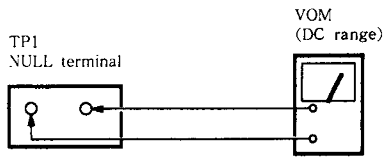
SSG	Carrier frequency	98MHz
	Modulation	MONO : 1kHz, 40kHz deviation
		STEREO : Audio 1kHz, 16.25kHz deviation Pilot 19kHz, 7.5kHz deviation Sub-carrier 38kHz, 16.25kHz deviation

• FM Discriminator Alignment (NULL check)

Setting :


FM RF stereo signal generator
set
FM ANTENNA

Output level : 1mV (60dB μ)


TP1
NULL terminal
VOM
(DC range)

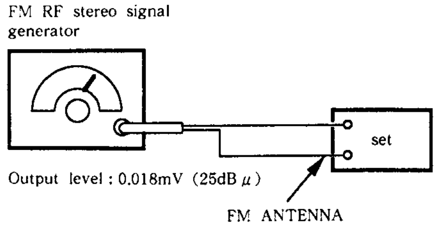
Procedure :

1. Tune the set to 98MHz.
2. Adjust T21 for 0V reading on the VOM.

Note : FM tuning level adjustment should be made after FM discriminator alignment.

• FM Tuning Level Adjustment

Setting :


FM RF stereo signal generator
set
FM ANTENNA

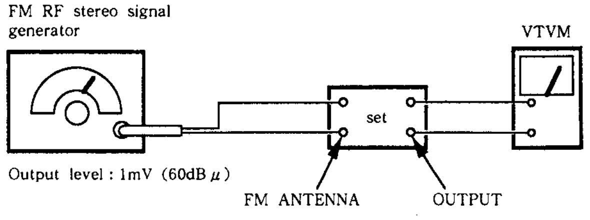
Output level : 0.018mV (25dB μ)

Procedure :

1. Tune the set to 98MHz.
2. Adjust RV24 so that the TUNED LED goes on.

• FM Stereo Separation Adjustment

Setting :


FM RF stereo signal generator
VTVM
set
FM ANTENNA
OUTPUT

Output level : 1mV (60dB μ)

Procedure :

Tune the set to 98MHz

FM stereo Signal generator Output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV21 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV21 for minimum reading.

L-CH Stereo separation : Ⓐ – Ⓑ
R-CH Stereo separation : Ⓒ – Ⓓ

The separations of both channels should be equal.

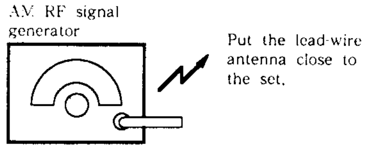
AM SECTION

• AM Tuning Level Adjustment

Setting :

BAND selector : LW

Procedure :


AM RF signal generator

Put the lead-wire antenna close to the set.

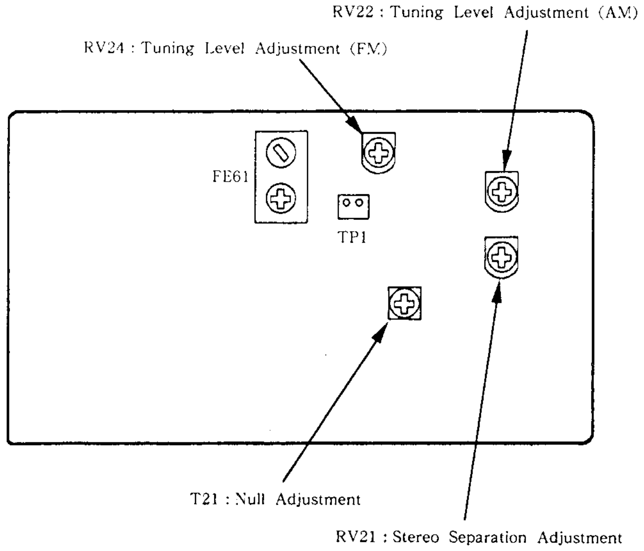
Carrier frequency : 216kHz

30% amplitude modulation by 400Hz signal
Output level : 68dB μ

1. Tune the set to 216kHz
2. Adjust the RV22 so that the TUNED LED goes on.

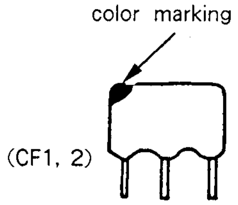
Parts Arrangement Diagram for Adjustments

– tuner board –


RV22 : Tuning Level Adjustment (AM)
RV24 : Tuning Level Adjustment (FM)
FE61
TP1
T21 : Null Adjustment
RV21 : Stereo Separation Adjustment

Note on Ceramic Filter (CF1, 2) Replacement.

This set employs three ceramic filters (CF1, 2) which should have the same color marking to identify their center frequency. Therefore FM IF offset adjustment by D708, D709 mounted is necessary to match the center frequency of the ceramic filters used with FM intermediate frequency.


color marking
(CF1, 2)

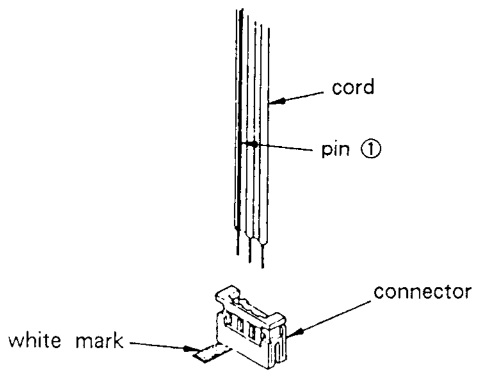
○ : Mounted
× : not Mounted

Ceramic filter		Mount		FM intermediate frequency (MHz)
Color mark	Center frequency (MHz)	*A D708	*B D709	
White	10.750	×	○	10.750
Red	10.700	○	○	10.700
Black	10.650	○	×	10.650

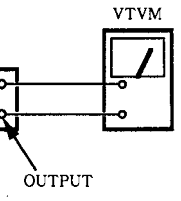
FM intermediate frequency is determined by the three types as shown above. Ceramic filters of same center frequency, i.e., of same color coding should be used for CF1 and CF2. When replacing the ceramic filters, perform the FM Discriminator Adjustment.

[Note on Inserting the Cord to the Connector on Tuner Board]

- Insert the cord to the connector fitting Pin ① of the cord in accordance with the white mark on the board at the connector as shown in the figure.


cord
pin ①
connector
white mark

3-1.


VTVM
OUTPUT

VTVM reading (dB)
Ⓐ
Ⓑ Adjust RV21 for minimum reading.
Ⓒ
Ⓓ Adjust RV21 for minimum reading.

be equal.

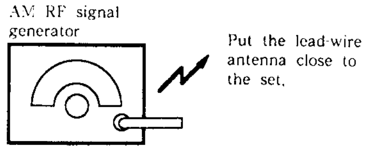
AM SECTION

• AM Tuning Level Adjustment

Setting :

BAND selector : LW

Procedure :


AM RF signal generator
Put the lead-wire antenna close to the set.

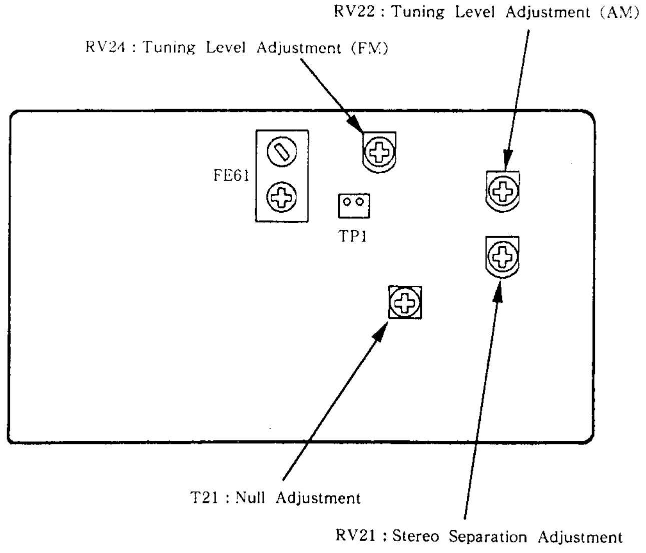
Carrier frequency : 216kHz

30% amplitude modulation by 400Hz signal
Output level : 68dB μ

1. Tune the set to 216kHz
2. Adjust the RV22 so that the TUNED LED goes on.

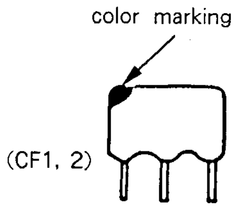
Parts Arrangement Diagram for Adjustments

– tuner board –


RV22 : Tuning Level Adjustment (AM)
RV24 : Tuning Level Adjustment (FM)
FE61
TP1
T21 : Null Adjustment
RV21 : Stereo Separation Adjustment

Note on Ceramic Filter (CF1, 2) Replacement.

This set employs three ceramic filters (CF1, 2) which should have the same color marking to identify their center frequency. Therefore FM IF offset adjustment by D708, D709 mounted is necessary to match the center frequency of the ceramic filters used with FM intermediate frequency.


color marking
(CF1, 2)

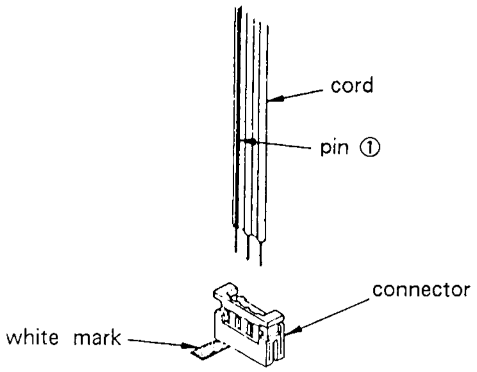
○ : Mounted
× : not Mounted

Ceramic filter		Mount		FM intermediate frequency (MHz)
Color mark	Center frequency (MHz)	*A D708	*B D709	
White	10.750	×	○	10.750
Red	10.700	○	○	10.700
Black	10.650	○	×	10.650

FM intermediate frequency is determined by the three types as shown above. Ceramic filters of same center frequency, i. e., of same color coding should be used for CF1 and CF2. When replacing the ceramic filters, perform the FM Discriminator Adjustment.

[Note on Inserting the Cord to the Connector on Tuner Board]

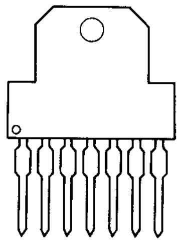
- Insert the cord to the connector fitting Pin ① of the cord in accordance with the white mark on the board at the connector as shown in the figure.


cord
pin ①
connector
white mark

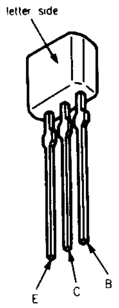
SECTION 3
DIAGRAMS

3-1. SEMICONDUCTOR LEAD LAYOUTS

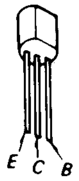
LA5667



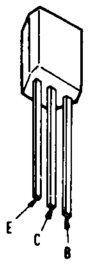
2SA1175-HFE
2SC2785-HFE


letter side
E
C
B

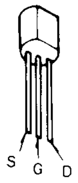
2SB1116A-L



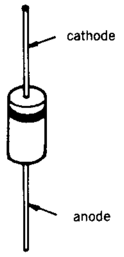
2SC2603-EF
2SC2669-OY
2SC3113-AB
DTA114ES
DTC114ES
DTC124ES



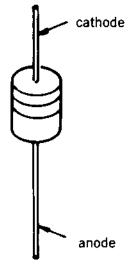
2SK246-GR3



1N4148M
10E2N


cathode
anode

HZS30-2L
UZP-5.6B


cathode
anode

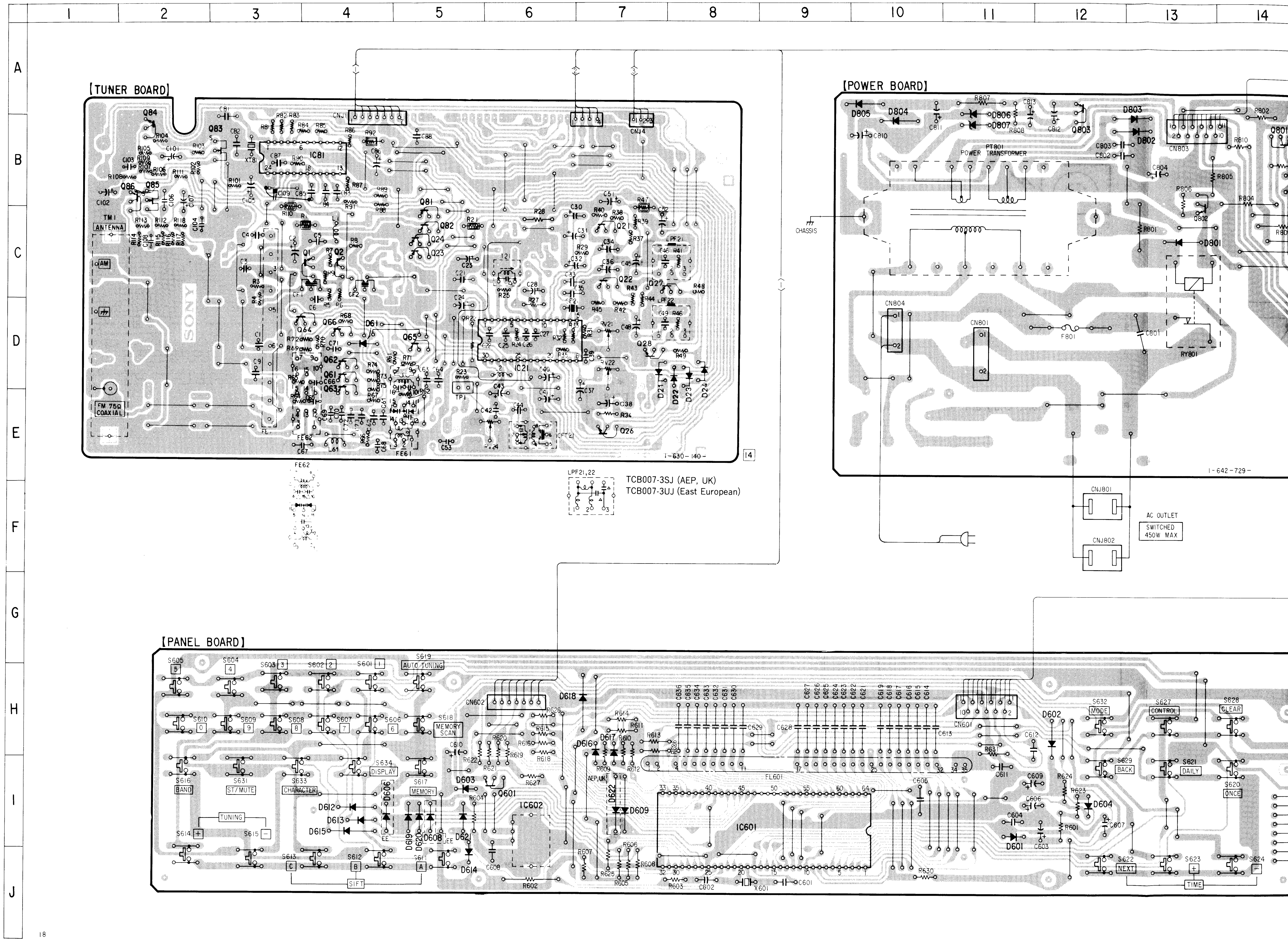
3-2. PRINTED WIRING BOARDS

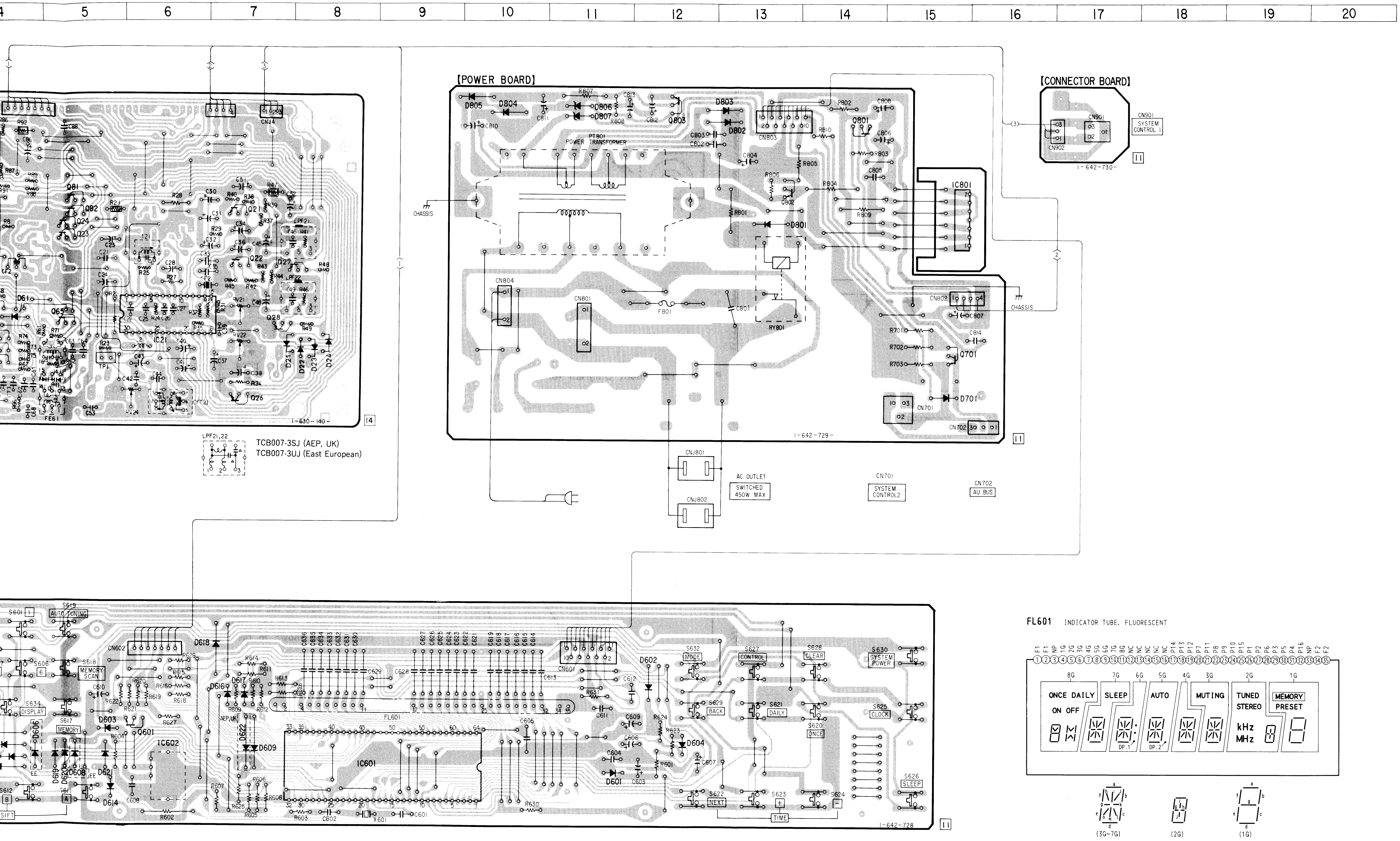
- **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
D21	D-7	Q1	C-4
D22	D-8	Q2	C-4
D23	D-8	Q21	C-7
D24	D-8	Q22	C-7
D61	D-4	Q23	C-5
D601	I-11	Q24	C-5
D602	H-12	Q26	E-7
D603	I-5	Q27	C-7
D604	I-12	Q28	D-7
D606	I-5	Q61	D-4
D608	I-5	Q62	D-4
D609	I-7	Q63	D-4
D612	I-4	Q64	D-4
D613	I-4	Q65	D-5
D614	J-5	Q66	D-4
D615	I-4	Q81	B-5
D616	H-7	Q82	C-5
D617	H-7	Q83	B-3
D618	H-7	Q84	B-2
D619	I-5	Q85	B-2
D620	I-5	Q86	B-2
D621	I-5	Q601	I-6
D622	I-7	Q701	D-15
D701	E-15	Q801	B-14
D801	C-13	Q802	B-13
D802	B-13	Q803	A-12
D803	A-13		
D804	A-10		
D805	A-10		
D806	A-11		
D807	B-11		
IC21	D-6		
IC81	B-3		
IC601	I-8		
IC602	I-6		
IC801	C-15		

Note:

- ○—— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.


1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I J
[TUNER BOARD]
TM1 ANTENNA
AM
FM 75Ω COAXIAL
SONY
IC81
IC21
1-630-140-
14
LPF21,22
TCB007-3SJ (AEP, UK)
TCB007-3UJ (East European)
FE62
[POWER BOARD]
PT801 POWER TRANSFORMER
CHASSIS
CN803
CN804
CN801
F801
RY801
1-642-729-
CNJ801
CNJ802
AC OUTLET SWITCHED 450W MAX
[PANEL BOARD]
S605 5
S604 4
S603 3
S602 2
S601 1
S619 AUTO TUNING
S610 0
S609 9
S608 8
S607 7
S606 6
S618 MEMORY SCAN
S616 BAND
S631 ST/MUTE
S633 CHARACTER
S634 DISPLAY
S617 MEMORY
TUNING
S614 +
S615 −
S613 C
S612 B
S611 A
SIFT
CN602
CN601
FL601
IC601
IC602
X601
S632 MODE
S627 CONTROL
S628 CLEAR
S629 BACK
S621 DAILY
S620 ONCE
S622 NEXT
S623 +
S624 −
TIME
AEP, UK
18


4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
[POWER BOARD]
[CONNECTOR BOARD]
CN901
SYSTEM CONTROL 1
CN902
1-642-730-
11
D805
D804
R807
C813
D806
D807
C811
R808
C812
Q803
D803
D802
C803
C802
CN803
R802
C808
R810
Q801
C806
R803
C804
R805
R806
C805
PT801
POWER TRANSFORMER
R804
IC801
Q802
R809
R801
D801
CHASSIS
CN804
CN801
F801
C801
RY801
CN802
C807
R701
R702
R703
C814
Q701
D701
CN701
CN702
1-642-729-
11
CNJ801
CNJ802
AC OUTLET
SWITCHED 450W MAX
CN701
SYSTEM CONTROL2
CN702
AU BUS
LPF21,22
TCB007-3SJ (AEP, UK)
TCB007-3UJ (East European)
1-630-140-
14
CNJ4
Q81
Q82
Q24
Q23
Q21
Q22
Q27
Q28
Q26
Q65
IC21
TP1
LPF21
LPF22
IFT21
FE61
D61
D21
D22
D23
D24
S601
S619
AUTO TUNING
CN602
D618
S606
S618
MEMORY SCAN
S634
DISPLAY
S617
MEMORY
D603
Q601
IC602
D606
D619
D620
D608
D621
D614
S612
B
S611
A
SIFT
D616
D617
D622
D609
AEP,UK
IC601
FL601
X601
CN601
D602
S632
MODE
S627
CONTROL
S628
CLEAR
S630
SYSTEM POWER
S629
BACK
S621
DAILY
S625
CLOCK
S620
ONCE
D604
D601
S626
SLEEP
S622
NEXT
S623
+
S624
−
TIME
1-642-728
11
FL601 INDICATOR TUBE, FLUORESCENT
F1 F1 NP 1G 2G 3G 4G 5G 6G 7G 8G NC NC NC NC P14 P13 P12 P7 P11 P8 P9 P10 P15 P1 P2 P6 P3 P5 P4 P16 NP F2 F2
8G
7G
6G
5G
4G
3G
2G
1G
ONCE DAILY
ON OFF
SLEEP
AUTO
MUTING
TUNED
STEREO
MEMORY
PRESET
kHz
MHz
DP.1
DP.2
(3G~7G)
(2G)
(1G)

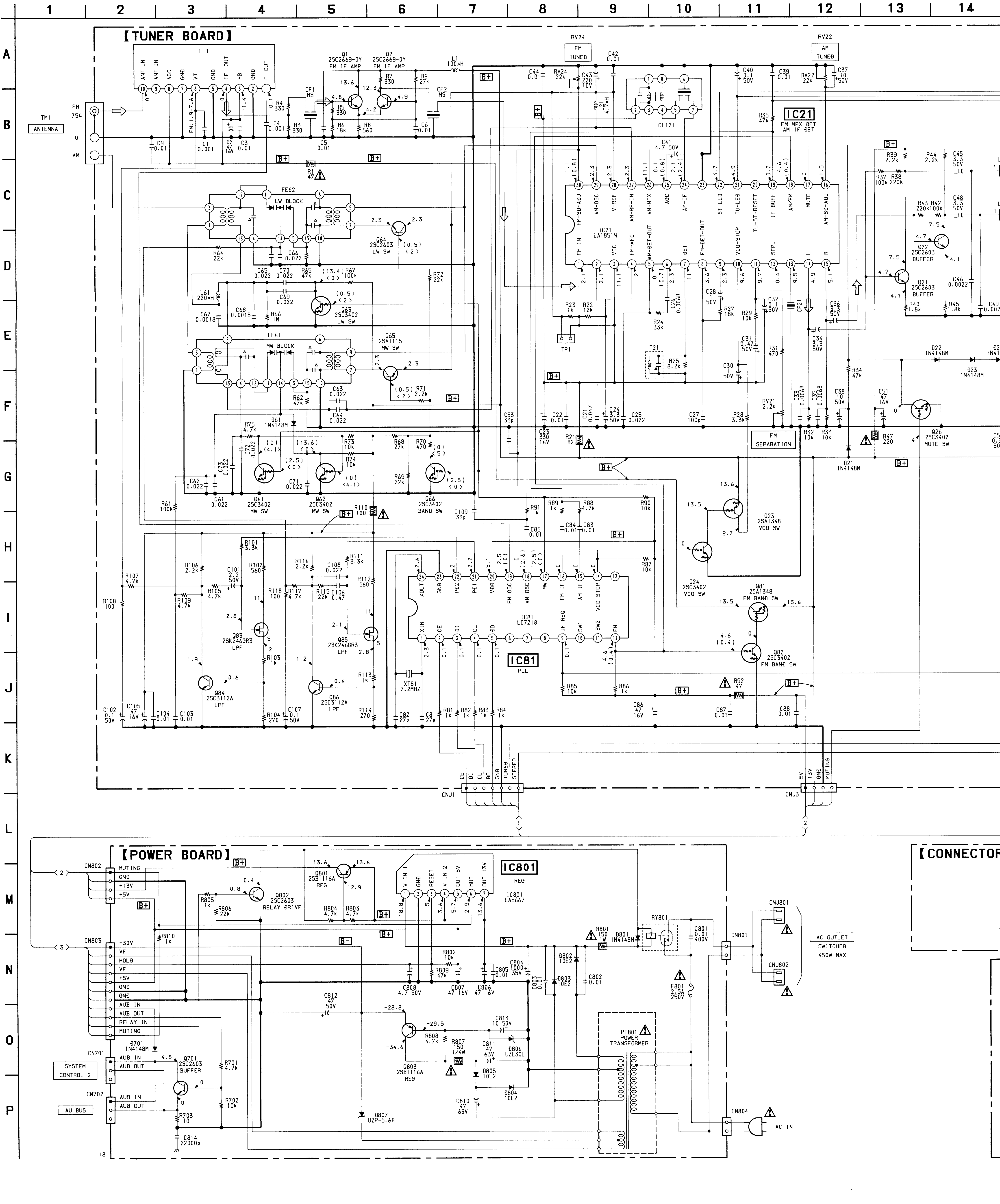
3-3. SCHEMATIC DIAGRAMS

Note:

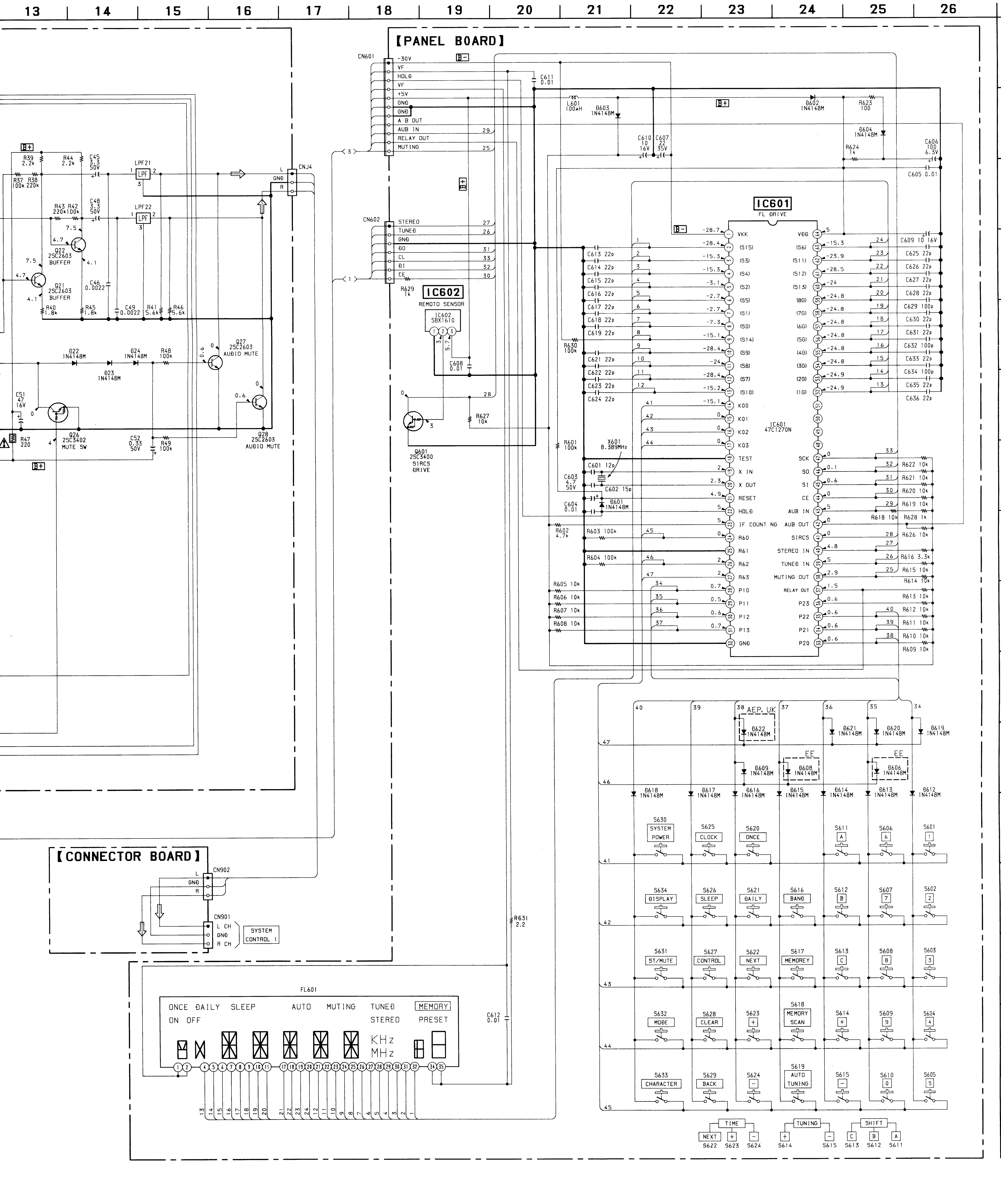
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : nonflammable resistor.

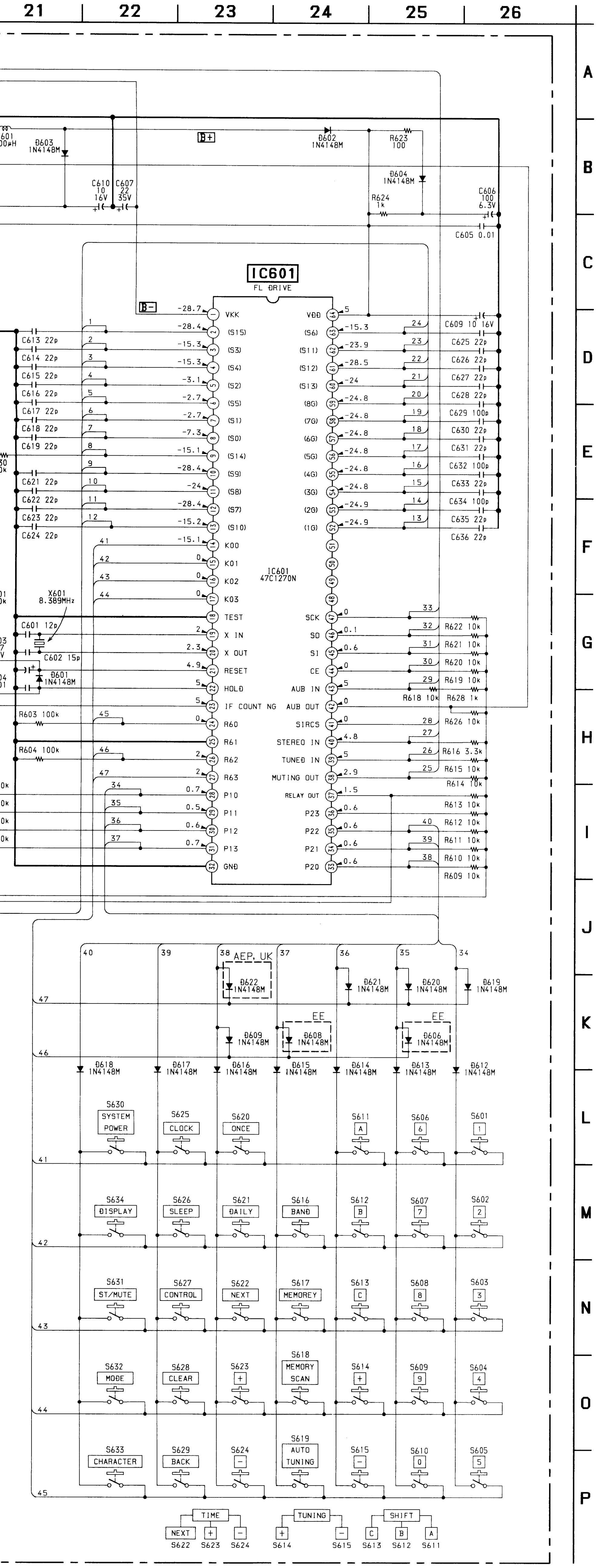
Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- B+ : B+ Line
- B− : B− Line
- ☐ : adjustment for repair.
  no mark : FM ‹ › : LW
  ( ): MW
- Voltages are taken with a VOM (Input
  Voltage variations may be noted due
  tion tolerances.
- Signal path.
  ⇨ : FM


TUNER BOARD
POWER BOARD
CONNECTOR
TM1 ANTENNA
FE1
IC21 FM MPX DET AM IF DET
IC21 LA1851N
IC81 PLL
IC81 LC7218
IC801 REG
IC801 LA5667
FE62 LW BLOCK
FE61 MW BLOCK
RV24 FM TUNED
RV22 AM TUNED
FM SEPARATION
CNJ1
CNJ3
CN802
CN803
CN701
CN702
SYSTEM CONTROL 2
AU BUS
RY801
PT801 POWER TRANSFORMER
AC OUTLET SWITCHED 450W MAX
AC IN
F801 2.5A 250V
XT81 7.2MHZ

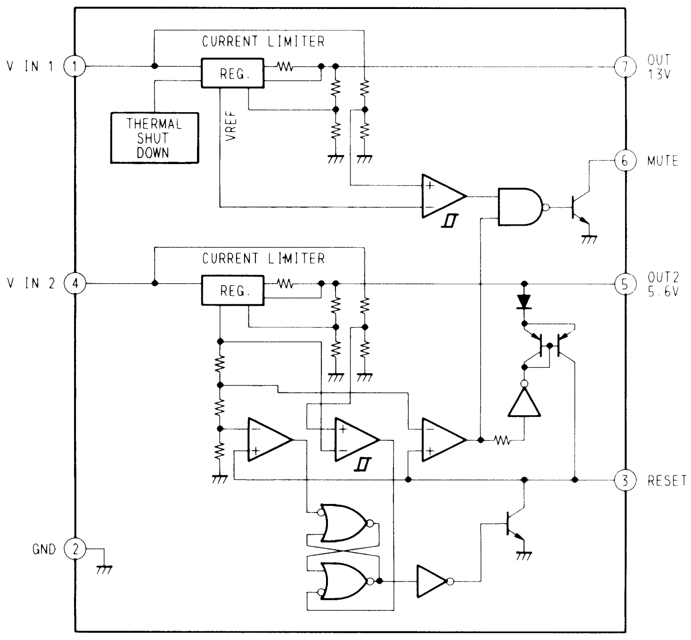
: B+ Line
: B– Line
]: adjustment for repair.
rk: FM 〈 〉: LW
): MW
ges are taken with a VOM (Input Impedance 10MΩ).
ge variations may be noted due to normal produc-
olerances.
path.
: FM


13
14
15
16
17
18
19
20
21
22
23
24
25
26
【PANEL BOARD】
CN601
-30V
VF
HOLD
VF
+5V
GND
GND
A B OUT
AUB IN
RELAY OUT
MUTING
CN602
STEREO
TUNED
GND
D0
CL
D1
CE
IC602
REMOTO SENSOR
IC602 SBX1610
Q601 2SC3400 SIRCS DRIVE
IC601
FL DRIVE
IC601 47C1270N
X601 8.389MHz
L601 100μH
D603 1N4148M
D602 1N4148M
D604 1N4148M
D601 1N4148M
VKK
VDD
TEST
X IN
X OUT
RESET
HOLD
IF COUNT NG
SCK
SO
SI
CE
AUB IN
AUB OUT
SIRCS
STEREO IN
TUNED IN
MUTING OUT
RELAY OUT
GND
LPF21
LPF22
CNJ4
Q21 2SC2603 BUFFER
Q22 2SC2603 BUFFER
Q26 2SC3402 MUTE SW
Q27 2SC2603 AUDIO MUTE
Q28 2SC2603 AUDIO MUTE
D22 1N4148M
D23 1N4148M
D24 1N4148M
【CONNECTOR BOARD】
CN902
CN901
L CH
GND
R CH
SYSTEM CONTROL 1
R631 2.2
C612 0.01
FL601
ONCE DAILY SLEEP
ON OFF
AUTO
MUTING
TUNED
STEREO
MEMORY
PRESET
KHz
MHz
AEP, UK
EE
S630 SYSTEM POWER
S625 CLOCK
S620 ONCE
S611 A
S606 6
S601 1
S634 DISPLAY
S626 SLEEP
S621 DAILY
S616 BAND
S612 B
S607 7
S602 2
S631 ST/MUTE
S627 CONTROL
S622 NEXT
S617 MEMOREY
S613 C
S608 8
S603 3
S632 MODE
S628 CLEAR
S623 +
S618 MEMORY SCAN
S614 +
S609 9
S604 4
S633 CHARACTER
S629 BACK
S624 –
S619 AUTO TUNING
S615 –
S610 0
S605 5
TIME
TUNING
SHIFT
NEXT
S622
S623
S624
S614
S615
S613
S612
S611

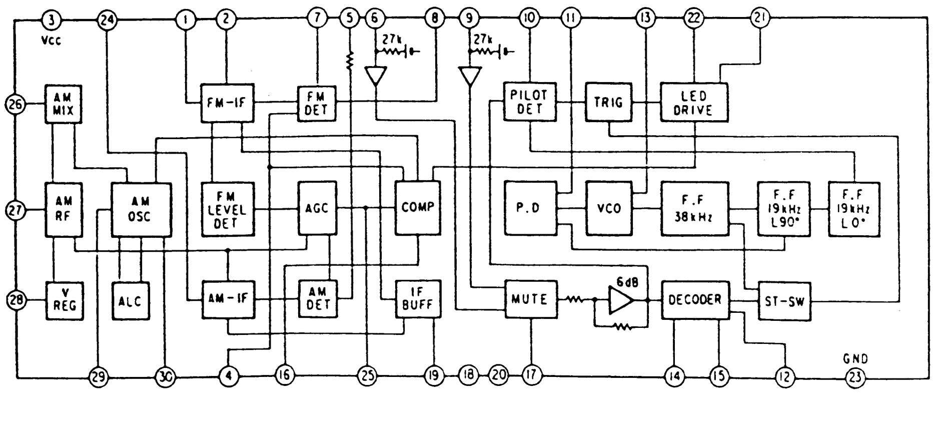

21
22
23
24
25
26
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
IC601
FL DRIVE
IC601
47C1270N
D603 1N4148M
D602 1N4148M
R623 100
D604 1N4148M
R624 1k
C610 10 16V
C607 22 35V
C606 100 6.3V
C605 0.01
B+
B-
VKK
VDD
TEST
X IN
X OUT
RESET
HOLD
IF COUNT NG
R60
R61
R62
R63
P10
P11
P12
P13
GND
SCK
SO
SI
CE
AUB IN
AUB OUT
SIRCS
STEREO IN
TUNED IN
MUTING OUT
RELAY OUT
P23
P22
P21
P20
K00
K01
K02
K03
X601 8.389MHz
C601 12p
C602 15p
D601 1N4148M
R603 100k
R604 100k
R622 10k
R621 10k
R620 10k
R619 10k
R618 10k
R628 1k
R626 10k
R616 3.3k
R615 10k
R614 10k
R613 10k
R612 10k
R611 10k
R610 10k
R609 10k
AEP, UK
EE
D622 1N4148M
D621 1N4148M
D620 1N4148M
D619 1N4148M
D609 1N4148M
D608 1N4148M
D606 1N4148M
D618 1N4148M
D617 1N4148M
D616 1N4148M
D615 1N4148M
D614 1N4148M
D613 1N4148M
D612 1N4148M
S630 SYSTEM POWER
S625 CLOCK
S620 ONCE
S611 A
S606 6
S601 1
S634 DISPLAY
S626 SLEEP
S621 DAILY
S616 BAND
S612 B
S607 7
S602 2
S631 ST/MUTE
S627 CONTROL
S622 NEXT
S617 MEMOREY
S613 C
S608 8
S603 3
S632 MODE
S628 CLEAR
S623 +
S618 MEMORY SCAN
S614 +
S609 9
S604 4
S633 CHARACTER
S629 BACK
S624 −
S619 AUTO TUNING
S615 −
S610 0
S605 5
TIME
NEXT S622
+ S623
− S624
TUNING
+ S614
− S615
SHIFT
C S613
B S612
A S611

● **IC Block Diagrams**

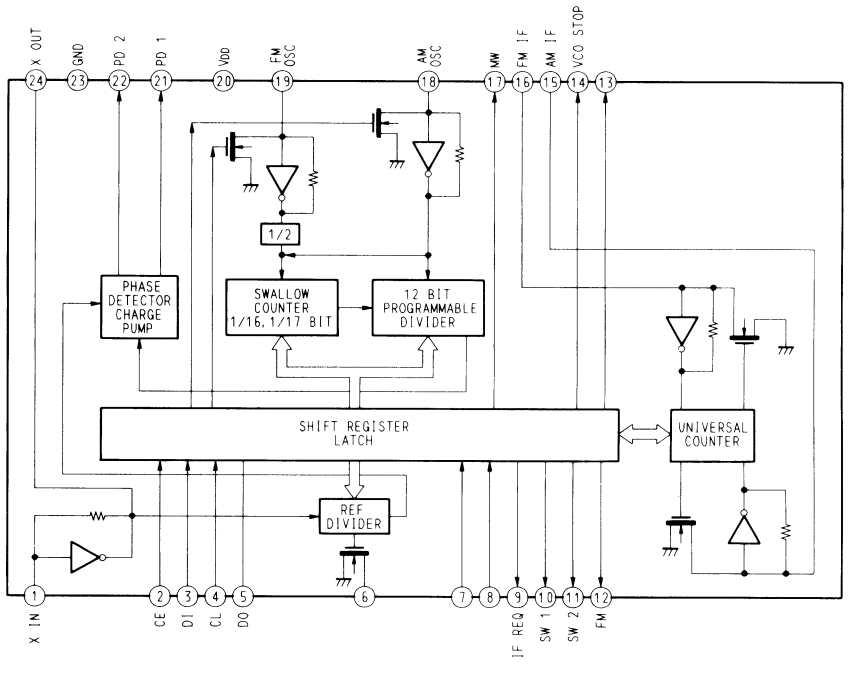
IC801 LA5667


CURRENT LIMITER
REG.
THERMAL SHUT DOWN
VREF
V IN 1 ①
OUT 13V ⑦
MUTE ⑥
CURRENT LIMITER
REG.
V IN 2 ④
OUT2 5.6V ⑤
RESET ③
GND ②

IC21 LA1851N


Vcc
27k
AM MIX
FM-IF
FM DET
PILOT DET
TRIG
LED DRIVE
AM RF
AM OSC
FM LEVEL DET
AGC
COMP
P.D
VCO
F.F 38kHz
F.F 19kHz L90°
F.F 19kHz L0°
V REG
ALC
AM-IF
AM DET
IF BUFF
MUTE
6dB
DECODER
ST-SW
GND

IC81 LC7218


X OUT
GND
PD 2
PD 1
VDD
FM OSC
AM OSC
MW
FM IF
AM IF
VCO STOP
1/2
PHASE DETECTOR CHARGE PUMP
SWALLOW COUNTER 1/16, 1/17 BIT
12 BIT PROGRAMMABLE DIVIDER
SHIFT REGISTER LATCH
UNIVERSAL COUNTER
REF DIVIDER
X IN
CE
DI
CL
DO
IF REQ
SW 1
SW 2
FM

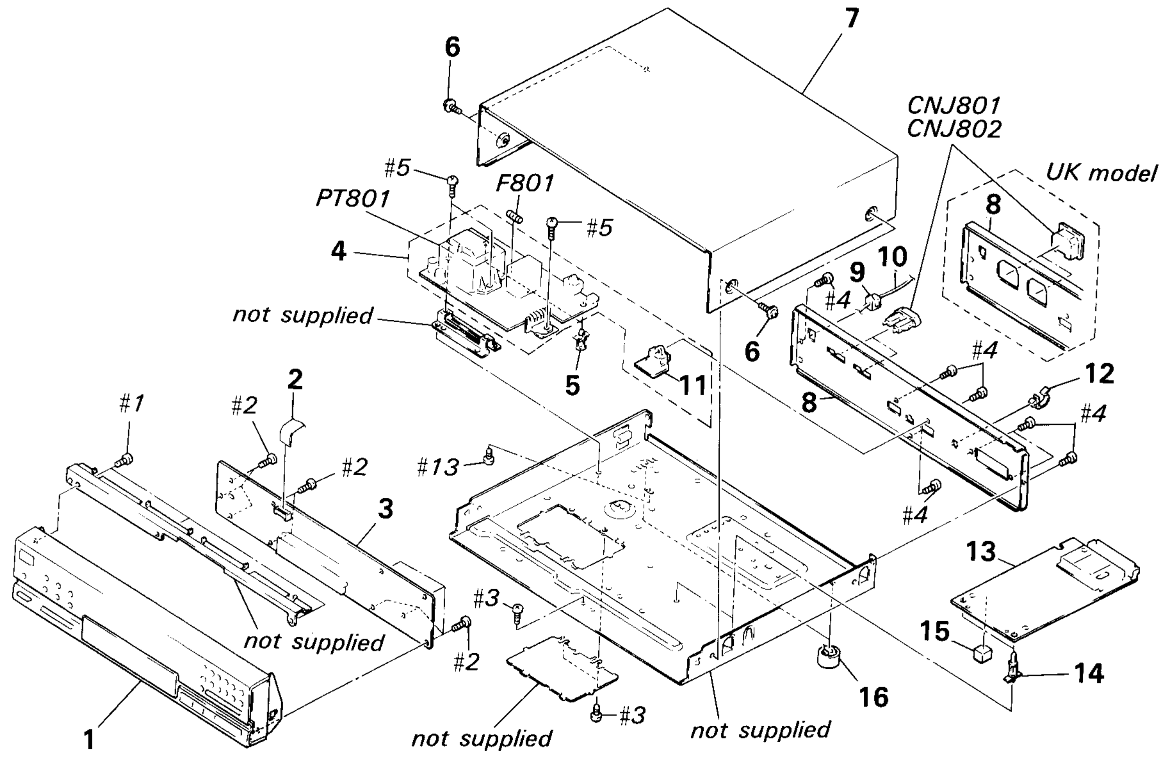
SECTION 4
EXPLODED VIEWS

NOTE:
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE(WHITE)...(RED)
  ↑ ↑
  Parts color Cabinet's color

- Items marked " ∗ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- hardware (#mark) list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

EE : East European Model



Ref. No.	Part No.	Description	Remark
1	X-4942-442-1	PANEL ASSY (507), FRONT (FOR LBT-D507;AEP, UK, EE)	
1	X-4942-445-1	PANEL ASSY (607), FRONT (FOR LBT-D607;AEP, UK)	
2	1-575-666-11	WIRE, FLAT TYPE (11 CORE)	
∗ 3	A-4347-291-A	PANEL BOARD, COMPLETE (AEP)	
∗ 3	A-4347-292-A	PANEL BOARD, COMPLETE (UK)	
∗ 3	A-4347-294-A	PANEL BOARD, COMPLETE (EE)	
∗ 4	A-4347-277-A	POWER BOARD, COMPLETE (AEP, EE)	
∗ 4	A-4347-278-A	POWER BOARD, COMPLETE (UK)	
∗ 5	3-349-025-31	HOLDER, PC BOARD	
6	3-363-099-01	SCREW (CASE +3X8 TP2)	
∗ 7	4-939-802-31	CASE	
∗ 8	4-950-668-11	PANEL, BACK (AEP, EE)	
∗ 8	4-950-668-21	PANEL, BACK (UK)	
∗ 9	3-703-244-00	BUSHING (2104), CORD	

Ref. No.	Part No.	Description	Remark
⚠10	1-575-651-11	CORD, POWER (AEP, EE)	
⚠10	1-575-652-11	CORD, POWER (UK)	
∗ 11	1-642-730-11	CONNECTOR BOARD	
∗ 12	4-949-235-01	HOOK	
∗ 13	A-4347-288-A	TUNER BOARD, COMPLETE (AEP, UK)	
∗ 13	A-4347-290-A	TUNER BOARD, COMPLETE (EE)	
∗ 14	4-924-098-31	HOLDER, PC BOARD	
15	9-911-849-XX	CUSHION	
16	4-931-169-01	FOOT	
⚠F801	1-532-286-00	FUSE, TIME-LAG	
⚠PT801	1-449-979-11	TRANSFORMER, POWER	
⚠CNJ801	1-526-794-11	OUTLET, AC (AEP, EE)	
⚠CNJ802	1-526-794-11	OUTLET, AC (AEP, EE)	
⚠CNJ801	1-526-751-00	OUTLET, AC (UK)	
⚠CNJ802	1-526-751-00	OUTLET, AC (UK)	

SECTION 5
ELECTRICAL PARTS LIST

PANEL POWER CONNECTOR

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- RESISTORS
  All resistors are in ohms
  METAL:Metal-film resistor
  METAL OXIDE:Metal Oxide-film resistor
  F:nonflammable
- Items marked " ∗ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ , for example:
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD...
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indication parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description			Remark
∗	A-4347-294-A	PANEL BOARD, COMPLETE (EE)			
∗	A-4347-292-A	PANEL BOARD, COMPLETE (UK)			
∗	A-4347-291-A	PANEL BOARD, COMPLETE (AEP)			
		***************************			
∗	A-4347-278-A	POWER BOARD, COMPLETE (UK)			
∗	A-4347-277-A	POWER BOARD, COMPLETE (AEP, EE)			
		*******************************			
		CONNECTOR BOARD			
		***************			
∗	4-921-941-01	CUSHION (FL)			
∗	4-923-103-01	HOLDER, FL TUBE			
		< CAPACITOR >			
C601	1-162-201-31	CERAMIC	12PF	5%	50V
C602	1-162-203-31	CERAMIC	15PF	5%	50V
C603	1-126-163-11	ELECT	4.7uF	20%	50V
C604	1-164-096-11	CERAMIC	0.01uF		50V
C605	1-161-379-00	CERAMIC	0.01uF	20%	25V
C606	1-126-177-11	ELECT	100uF	20%	10V
C607	1-124-916-11	ELECT	22uF	20%	63V
C608	1-164-096-11	CERAMIC	0.01uF		50V
C609	1-126-157-11	ELECT	10uF	20%	16V
C610	1-126-157-11	ELECT	10uF	20%	16V
C611	1-164-096-11	CERAMIC	0.01uF		50V
C612	1-164-096-11	CERAMIC	0.01uF		50V
C613	1-162-207-31	CERAMIC	22PF	5%	50V
C614	1-162-207-31	CERAMIC	22PF	5%	50V
C615	1-162-207-31	CERAMIC	22PF	5%	50V
C616	1-162-207-31	CERAMIC	22PF	5%	50V
C617	1-162-207-31	CERAMIC	22PF	5%	50V
C618	1-162-207-31	CERAMIC	22PF	5%	50V
C619	1-162-207-31	CERAMIC	22PF	5%	50V
C621	1-162-207-31	CERAMIC	22PF	5%	50V
C622	1-162-207-31	CERAMIC	22PF	5%	50V
C623	1-162-207-31	CERAMIC	22PF	5%	50V
C624	1-162-207-31	CERAMIC	22PF	5%	50V
C625	1-162-207-31	CERAMIC	22PF	5%	50V
C626	1-162-207-31	CERAMIC	22PF	5%	50V
C627	1-162-207-31	CERAMIC	22PF	5%	50V
C628	1-162-207-31	CERAMIC	22PF	5%	50V
C629	1-162-282-31	CERAMIC	100PF	10%	50V
C630	1-162-207-31	CERAMIC	22PF	5%	50V
C631	1-162-207-31	CERAMIC	22PF	5%	50V
C632	1-162-282-31	CERAMIC	100PF	10%	50V
C633	1-162-207-31	CERAMIC	22PF	5%	50V
C634	1-162-282-31	CERAMIC	100PF	10%	50V
C635	1-162-207-31	CERAMIC	22PF	5%	50V
C636	1-162-207-31	CERAMIC	22PF	5%	50V
C801	1-161-744-00	CERAMIC	0.01uF		400V
C802	1-101-004-00	CERAMIC	0.01uF		50V
C803	1-101-004-00	CERAMIC	0.01uF		50V
C804	1-126-105-11	ELECT	1000uF	20%	35V
C805	1-164-096-11	CERAMIC	0.01uF		50V
C806	1-126-022-11	ELECT	47uF	20%	16V
C807	1-126-022-11	ELECT	47uF	20%	16V
C808	1-126-163-11	ELECT	4.7uF	20%	50V
C810	1-124-918-11	ELECT	47uF	20%	63V
C811	1-124-918-11	ELECT	47uF	20%	63V
C812	1-124-910-11	ELECT	47uF	20%	50V
C813	1-126-059-11	ELECT	10uF	20%	50V
C814	1-162-596-11	CERAMIC	0.022uF		50V
		< CONNECTOR >			
∗ CN601	1-568-854-11	SOCKET, CONNECTOR 11P			
∗ CN602	1-568-273-11	SOCKET, CONNECTOR 7P			

Ref. No.	Part No.	D
∗ CN702	1-565-561-11	P
CN801	1-535-139-00	B
∗ CN802	1-568-308-11	S
∗ CN803	1-568-830-11	S
∗ CN804	1-564-321-00	P
∗ CN901	1-569-625-41	S
CN902	1-568-269-11	S
		<
D601	8-719-987-63	DI
D602	8-719-987-63	DI
D603	8-719-987-63	DI
D604	8-719-987-63	DI
D606	8-719-987-63	DI
D608	8-719-987-63	DI
D609	8-719-987-63	DI
D612	8-719-987-63	DI
D613	8-719-987-63	DI
D614	8-719-987-63	DI
D615	8-719-987-63	DI
D616	8-719-987-63	DI
D617	8-719-987-63	DI
D618	8-719-987-63	DI
D619	8-719-987-63	DI
D620	8-719-987-63	DI
D621	8-719-987-63	DI
D622	8-719-987-63	DI
D701	8-719-987-63	DI
D801	8-719-987-63	DI
D802	8-719-200-77	DI
D803	8-719-200-77	DI
D804	8-719-200-77	DI
D805	8-719-200-77	DI
D806	8-719-934-22	DI
D807	8-719-014-66	DI
		<
⚠F801	1-532-286-00	FU
		<
∗ FH801	1-533-213-31	HO
∗ FH802	1-533-213-31	HO
		<
FL601	1-519-728-11	IN

The components ident
mark ⚠ or dotted line w
⚠ are critical for safety.
Replace only with part
specified.

reference
e board name.

tified by
with mark
number

		Remark
5%	50V	
5%	50V	
5%	50V	
5%	50V	
5%	50V	
5%	50V	
5%	50V	
5%	50V	
10%	50V	
5%	50V	
5%	50V	
10%	50V	
5%	50V	
10%	50V	
5%	50V	
5%	50V	
	400V	
	50V	
	50V	
20%	35V	
	50V	
20%	16V	
20%	16V	
20%	50V	
20%	63V	
20%	63V	
20%	50V	
20%	50V	
	50V	

PANEL POWER CONNECTOR

Ref. No.	Part No.	Description	Remark
* CN702	1-565-561-11	PIN, CONNECTOR 3P	
CN801	1-535-139-00	BASE POST 22MM (10MM PITCH) 2P	
* CN802	1-568-308-11	SOCKET, CONNECTOR 4P	
* CN803	1-568-830-11	SOCKET, CONNECTOR 11P	
* CN804	1-564-321-00	PIN, CONNECTOR 2P	
* CN901	1-569-625-41	SOCKET, CONNECTOR 3P	
CN902	1-568-269-11	SOCKET, CONNECTOR 3P	
		< DIODE >	
D601	8-719-987-63	DIODE 1N4148M	
D602	8-719-987-63	DIODE 1N4148M	
D603	8-719-987-63	DIODE 1N4148M	
D604	8-719-987-63	DIODE 1N4148M	
D606	8-719-987-63	DIODE 1N4148M (EE)	
D608	8-719-987-63	DIODE 1N4148M (EE)	
D609	8-719-987-63	DIODE 1N4148M	
D612	8-719-987-63	DIODE 1N4148M	
D613	8-719-987-63	DIODE 1N4148M	
D614	8-719-987-63	DIODE 1N4148M	
D615	8-719-987-63	DIODE 1N4148M	
D616	8-719-987-63	DIODE 1N4148M	
D617	8-719-987-63	DIODE 1N4148M	
D618	8-719-987-63	DIODE 1N4148M	
D619	8-719-987-63	DIODE 1N4148M	
D620	8-719-987-63	DIODE 1N4148M	
D621	8-719-987-63	DIODE 1N4148M	
D622	8-719-987-63	DIODE 1N4148M (AEP, UK)	
D701	8-719-987-63	DIODE 1N4148M	
D801	8-719-987-63	DIODE 1N4148M	
D802	8-719-200-77	DIODE 10E2N	
D803	8-719-200-77	DIODE 10E2N	
D804	8-719-200-77	DIODE 10E2N	
D805	8-719-200-77	DIODE 10E2N	
D806	8-719-934-22	DIODE HZS30-2L	
D807	8-719-014-66	DIODE UZP-5.6B	
		< FUSE >	
⚠F801	1-532-286-00	FUSE, TIME-LAG (2.5A/250V)	
		< FUSE HOLDER >	
* FH801	1-533-213-31	HOLDER, FUSE	
* FH802	1-533-213-31	HOLDER, FUSE	
		< FLUORESCENT INDICATOR >	
FL601	1-519-728-11	INDICATOR TUBE, FLUORESCENT	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description				Remark
		< IC >				
IC601	8-759-053-98	IC TMP47C1270AN-H204				
IC602	8-741-100-48	IC SBX1610-59				
IC801	8-759-820-09	IC LA5667				
		< TRANSFORMER >				
PT801	1-449-979-11	TRANSFORMER, POWER				
		< TRANSISTOR >				
Q601	8-729-900-36	TRANSISTOR DTC124ES				
Q701	8-729-620-05	TRANSISTOR 2SC2603-EF				
Q801	8-729-140-04	TRANSISTOR 2SB1116A-L				
Q802	8-729-620-05	TRANSISTOR 2SC2603-EF				
Q803	8-729-140-04	TRANSISTOR 2SB1116A-L				
		< RESISTOR >				
R601	1-249-441-11	CARBON	100K	5%	1/4W	
R602	1-249-429-11	CARBON	10K	5%	1/4W	
R603	1-249-441-11	CARBON	100K	5%	1/4W	
R604	1-249-441-11	CARBON	100K	5%	1/4W	
R605	1-249-429-11	CARBON	10K	5%	1/4W	
R606	1-249-429-11	CARBON	10K	5%	1/4W	
R607	1-249-429-11	CARBON	10K	5%	1/4W	
R608	1-249-429-11	CARBON	10K	5%	1/4W	
R609	1-249-429-11	CARBON	10K	5%	1/4W	
R610	1-249-429-11	CARBON	10K	5%	1/4W	
R611	1-249-429-11	CARBON	10K	5%	1/4W	
R612	1-249-429-11	CARBON	10K	5%	1/4W	
R613	1-249-425-11	CARBON	4.7K	5%	1/4W	
R614	1-249-429-11	CARBON	10K	5%	1/4W	
R615	1-249-429-11	CARBON	10K	5%	1/4W	
R616	1-249-423-11	CARBON	3.3K	5%	1/4W	
R618	1-249-417-11	CARBON	1K	5%	1/4W	
R619	1-249-429-11	CARBON	10K	5%	1/4W	
R620	1-249-429-11	CARBON	10K	5%	1/4W	
R621	1-249-429-11	CARBON	10K	5%	1/4W	
R622	1-249-429-11	CARBON	10K	5%	1/4W	
R623	1-249-405-11	CARBON	100	5%	1/4W	
R624	1-249-417-11	CARBON	1K	5%	1/4W	
R625	1-249-441-11	CARBON	100K	5%	1/4W	
R626	1-249-429-11	CARBON	10K	5%	1/4W	
R627	1-249-429-11	CARBON	10K	5%	1/4W	
R628	1-249-417-11	CARBON	1K	5%	1/4W	
R629	1-249-417-11	CARBON	1K	5%	1/4W	
R630	1-249-441-11	CARBON	100K	5%	1/4W	
R631	1-249-421-11	CARBON	2.2	5%	1/4W	
R701	1-249-425-11	CARBON	4.7K	5%	1/4W	
R702	1-249-429-11	CARBON	10K	5%	1/4W	
R703	1-249-393-11	CARBON	10	5%	1/4W	

PANEL POWER CONNECTOR

Ref. No.	Part No.	Description				Remark
⚠R801	1-215-864-00	METAL OXIDE	150	5%	1W	F
R802	1-249-429-11	CARBON	10K	5%	1/4W	
R803	1-249-425-11	CARBON	4.7K	5%	1/4W	
R804	1-249-425-11	CARBON	4.7K	5%	1/4W	
R805	1-249-417-11	CARBON	1K	5%	1/4W	
R806	1-249-433-11	CARBON	22K	5%	1/4W	
⚠R807	1-247-702-11	CARBON	150	5%	1/4W	F
R808	1-249-425-11	CARBON	4.7K	5%	1/4W	
R809	1-249-437-11	CARBON	47K	5%	1/4W	
R810	1-249-417-11	CARBON	1K	5%	1/4W	
		< RELAY >				
RY801	1-515-617-11	RELAY				
		< SWITCH >				
S601	1-554-303-21	SWITCH, TACTILE (1)				
S602	1-554-303-21	SWITCH, TACTILE (2)				
S603	1-554-303-21	SWITCH, TACTILE (3)				
S604	1-554-303-21	SWITCH, TACTILE (4)				
S605	1-554-303-21	SWITCH, TACTILE (5)				
S606	1-554-303-21	SWITCH, TACTILE (6)				
S607	1-554-303-21	SWITCH, TACTILE (7)				
S608	1-554-303-21	SWITCH, TACTILE (8)				
S609	1-554-303-21	SWITCH, TACTILE (9)				
S610	1-554-303-21	SWITCH, TACTILE (0)				
S611	1-554-303-21	SWITCH, TACTILE (SHIFT A)				
S612	1-554-303-21	SWITCH, TACTILE (SHIFT B)				
S613	1-554-303-21	SWITCH, TACTILE (SHIFT C)				
S614	1-554-303-21	SWITCH, TACTILE (TUNING +)				
S615	1-554-303-21	SWITCH, TACTILE (TUNING -)				
S616	1-554-303-21	SWITCH, TACTILE (BAND)				
S617	1-554-303-21	SWITCH, TACTILE (MEMORY)				
S618	1-554-303-21	SWITCH, TACTILE (MEMORY SCAN)				
S619	1-554-303-21	SWITCH, TACTILE (AUTO TUNING)				
S620	1-554-303-21	SWITCH, TACTILE (ONCE)				
S621	1-554-303-21	SWITCH, TACTILE (DAILY)				
S622	1-554-303-21	SWITCH, TACTILE (TIME NEXT)				
S623	1-554-303-21	SWITCH, TACTILE (TIME +)				
S624	1-554-303-21	SWITCH, TACTILE (TIME -)				
S625	1-554-303-21	SWITCH, TACTILE (CLOCK)				
S626	1-554-303-21	SWITCH, TACTILE (SLEEP)				
S627	1-554-303-21	SWITCH, TACTILE (CONTROL)				
S628	1-554-303-21	SWITCH, TACTILE (CLEAR)				
S629	1-554-303-21	SWITCH, TACTILE (BACK)				
S630	1-554-303-21	SWITCH, TACTILE (SYSTEM POWER)				
S631	1-554-303-21	SWITCH, TACTILE (ST/MUTE)				
S632	1-554-303-21	SWITCH, TACTILE (MODE)				
S633	1-554-303-21	SWITCH, TACTILE (CHARACTER)				

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description				Remark
S634	1-554-303-21	SWITCH, TACTILE (DISPLAY)				
		< CRYSTAL >				
X601	1-579-564-11	VIBRATOR, CRYSTAL (8.389MHz)				
***						
*	A-4347-290-A	TUNER BOARD, COMPLETE (EE)				
*	A-4347-288-A	TUNER BOARD, COMPLETE (AEP, UK)				
		******************************				
	1-589-204-11	TUNER BOARD (AEP, EE, UK)				
*	4-924-988-11	PLATE (ST), GROUND				
		< CAPACITOR >				
C1	1-162-294-31	CERAMIC	1000PF	20%	25V	
C2	1-124-477-11	ELECT	47uF	20%	25V	
C3	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V	
C4	1-162-294-31	CERAMIC	1000PF	20%	25V	
C5	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V	
C6	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V	
C9	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V	
C21	1-101-006-00	CERAMIC	0.047uF		50V	
C22	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V	
C23	1-124-119-00	ELECT	330uF	20%	16V	
C24	1-123-382-00	ELECT	3.3uF	20%	100V	
C25	1-163-063-00	CERAMIC CHIP	22000PF		25V	
C26	1-163-019-00	CERAMIC CHIP	6800PF	20%	12V	
C27	1-162-516-11	CERAMIC CHIP	100PF	10%	50V	
C28	1-124-903-11	ELECT	1uF	20%	50V	
C30	1-124-903-11	ELECT	1uF	20%	50V	
C31	1-124-902-00	ELECT	0.47uF	20%	50V	
C32	1-124-463-00	ELECT	0.1uF	20%	50V	
C33	1-130-481-00	MYLAR	0.0068uF	5%	50V	
C34	1-123-382-00	ELECT	3.3uF	20%	100V	
C35	1-130-481-00	MYLAR	0.0068uF	5%	50V	
C36	1-123-382-00	ELECT	3.3uF	20%	100V	
C37	1-124-907-11	ELECT	10uF	20%	50V	
C38	1-124-907-11	ELECT	10uF	20%	50V	
C39	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V	
C40	1-124-463-00	ELECT	0.1uF	20%	50V	
C41	1-124-927-11	ELECT	4.7uF	20%	100V	
C42	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V	
C43	1-126-176-11	ELECT	220uF	20%	10V	
C44	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V	
C45	1-123-382-00	ELECT	3.3uF	20%	100V	
C46	1-161-375-00	CERAMIC	2200PF	20%	25V	
C48	1-123-382-00	ELECT	3.3uF	20%	100V	
C49	1-161-375-00	CERAMIC	2200PF	20%	25V	

Ref. No.	Part No.	Description			Remark
C51	1-124-477-11	ELECT	47uF	20%	25V
C52	1-124-252-00	ELECT	0.33uF	20%	50V
C53	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C61	1-163-063-00	CERAMIC CHIP	22000PF		25V
C62	1-163-063-00	CERAMIC CHIP	22000PF		25V
C63	1-163-063-00	CERAMIC CHIP	22000PF		25V
C64	1-163-063-00	CERAMIC CHIP	22000PF		25V
C65	1-163-063-00	CERAMIC CHIP	22000PF		25V
C66	1-163-063-00	CERAMIC CHIP	22000PF		25V
C67	1-102-120-00	CERAMIC	0.0018uF	10%	50V
C68	1-163-011-11	CERAMIC CHIP	1500PF	20%	25V
C69	1-163-063-00	CERAMIC CHIP	22000PF		25V
C70	1-163-063-00	CERAMIC CHIP	22000PF		25V
C71	1-163-063-00	CERAMIC CHIP	22000PF		25V
C72	1-163-063-00	CERAMIC CHIP	22000PF		25V
C73	1-163-063-00	CERAMIC CHIP	22000PF		25V
C81	1-102-961-00	CERAMIC	27PF	5%	50V
C82	1-102-961-00	CERAMIC	27PF	5%	50V
C83	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V
C84	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V
C85	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V
C86	1-124-477-11	ELECT	47uF	20%	25V
C87	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V
C88	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V
C101	1-124-925-11	ELECT	2.2uF	20%	100V
C102	1-124-463-00	ELECT	0.1uF	20%	50V
C103	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V
C104	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V
C105	1-124-477-11	ELECT	47uF	20%	25V
C106	1-136-173-00	FILM	0.47uF	5%	50V
C107	1-124-463-00	ELECT	0.1uF	20%	50V
C108	1-163-063-00	CERAMIC CHIP	22000PF		25V
C109	1-102-963-00	CERAMIC	33PF	5%	50V
		< CERAMIC FILTER >			
CF1	1-567-389-11	FILTER, CERAMIC			
CF2	1-567-389-11	FILTER, CERAMIC			
CF21	1-577-075-11	OSCILLATOR, CERAMIC			
CFT21	1-404-853-11	TRANSFORMER, IF(CERAMIC FILTER)			
		< CONNECTOR >			
* CNJ1	1-568-273-11	SOCKET, CONNECTOR 7P			
* CNJ3	1-568-308-11	SOCKET, CONNECTOR 4P			
CNJ4	1-568-269-11	SOCKET, CONNECTOR 3P			
		< DIODE >			
D21	8-719-987-63	DIODE	1N4148M		
D22	8-719-987-63	DIODE	1N4148M		
D23	8-719-987-63	DIODE	1N4148M		

Ref. No.	Part No.	Description				Remark
D24	8-719-987-63	DIODE	1N4148M			
D61	8-719-987-63	DIODE	1N4148M			
		< FRONT END >				
FE1	1-463-862-21	FRONT END, FM (AEP, UK)				
FE1	1-465-560-11	FRONT END (FM 3 GANG) (EE)				
FE61	1-236-462-11	ENCAPSULATED COMPONENT				
FE62	1-236-463-11	ENCAPSULATED COMPONENT				
		< IC >				
IC21	8-759-821-45	IC	LA1851N			
IC81	8-759-820-91	IC	LC7218			
		< COIL >				
L1	1-410-645-31	INDUCTOR	100uH			
L21	1-407-500-00	INDUCTOR	4.7mH			
L61	1-410-525-11	INDUCTOR	220uH			
		< LOW PASS FILTER >				
LPF21	1-235-164-00	FILTER, LOW PASS				
LPF22	1-235-164-00	FILTER, LOW PASS				
		< TRANSISTOR >				
Q1	8-729-230-XX	TRANSISTOR	2SC2669-OY			
Q2	8-729-230-XX	TRANSISTOR	2SC2669-OY			
Q21	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q22	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q23	8-729-900-61	TRANSISTOR	DTA114ES			
Q24	8-729-900-80	TRANSISTOR	DTC114ES			
Q26	8-729-900-80	TRANSISTOR	DTC114ES			
Q27	8-729-620-05	TRANSISTOR	2SC2603-EF			
Q28	8-729-620-05	TRANSISTOR	2SC2603-EF			
Q61	8-729-900-80	TRANSISTOR	DTC114ES			
Q62	8-729-900-80	TRANSISTOR	DTC114ES			
Q63	8-729-900-80	TRANSISTOR	DTC114ES			
Q64	8-729-620-05	TRANSISTOR	2SC2603-EF			
Q65	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q66	8-729-900-80	TRANSISTOR	DTC114ES			
Q81	8-729-900-61	TRANSISTOR	DTA114ES			
Q82	8-729-900-80	TRANSISTOR	DTC114ES			
Q83	8-729-202-67	TRANSISTOR	2SK246-GR3			
Q84	8-729-230-93	TRANSISTOR	2SC3113-AB			
Q85	8-729-202-67	TRANSISTOR	2SK246-GR3			
Q86	8-729-230-93	TRANSISTOR	2SC3113-AB			
		< RESISTOR >				
⚠R1	1-249-401-11	CARBON	47	5%	1/4W	F
R3	1-249-329-11	CARBON MELF	330	5%	1/8W	

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TUNER

Ref. No.	Part No.	Description				Remark
R4	1-249-329-11	CARBON MELF	330	5%	1/8W	
R5	1-249-329-11	CARBON MELF	330	5%	1/8W	
R6	1-249-350-11	CARBON MELF	18K	5%	1/8W	
R7	1-249-329-11	CARBON MELF	330	5%	1/8W	
R8	1-249-332-11	CARBON MELF	560	5%	1/8W	
R9	1-249-352-11	CARBON MELF	27K	5%	1/8W	
⚠R21	1-249-404-00	CARBON	82	5%	1/4W	F
R22	1-249-430-11	CARBON	12K	5%	1/4W	
R23	1-249-335-11	CARBON MELF	1K	5%	1/8W	
R24	1-249-353-11	CARBON MELF	33K	5%	1/8W	
R25	1-249-346-11	CARBON MELF	8.2K	5%	1/8W	
R27	1-249-432-11	CARBON	18K	5%	1/4W	
R28	1-249-423-11	CARBON	3.3K	5%	1/4W	
R29	1-249-347-11	CARBON MELF	10K	5%	1/8W	
R31	1-249-331-11	CARBON MELF	470	5%	1/8W	
R32	1-249-347-11	CARBON MELF	10K	5%	1/8W	
R33	1-249-347-11	CARBON MELF	10K	5%	1/8W	
R34	1-249-425-11	CARBON	4.7K	5%	1/4W	
R35	1-249-355-11	CARBON MELF	47K	5%	1/8W	
R37	1-249-359-11	CARBON MELF	100K	5%	1/8W	
R38	1-249-363-11	CARBON MELF	220K	5%	1/8W	
R39	1-249-339-11	CARBON MELF	2.2K	5%	1/8W	
R40	1-249-338-11	CARBON MELF	1.8K	5%	1/8W	
R41	1-249-344-11	CARBON MELF	5.6K	5%	1/8W	
R42	1-249-359-11	CARBON MELF	100K	5%	1/8W	
R43	1-249-363-11	CARBON MELF	220K	5%	1/8W	
R44	1-249-339-11	CARBON MELF	2.2K	5%	1/8W	
R45	1-249-338-11	CARBON MELF	1.8K	5%	1/8W	
R46	1-249-344-11	CARBON MELF	5.6K	5%	1/8W	
⚠R47	1-249-409-11	CARBON	220	5%	1/4W	F
R48	1-249-359-11	CARBON MELF	100K	5%	1/8W	
R49	1-249-359-11	CARBON MELF	100K	5%	1/8W	
R61	1-249-359-11	CARBON MELF	100K	5%	1/8W	
R62	1-249-355-11	CARBON MELF	47K	5%	1/8W	
R64	1-249-351-11	CARBON MELF	22K	5%	1/8W	
R65	1-249-355-11	CARBON MELF	47K	5%	1/8W	
R66	1-215-493-00	METAL	1M	5%	1/4W	
R67	1-249-359-11	CARBON MELF	100K	5%	1/8W	
R68	1-249-352-11	CARBON MELF	27K	5%	1/8W	
R69	1-249-351-11	CARBON MELF	22K	5%	1/8W	
R70	1-249-331-11	CARBON MELF	470	5%	1/8W	
R71	1-249-339-11	CARBON MELF	2.2K	5%	1/8W	
R72	1-249-351-11	CARBON MELF	22K	5%	1/8W	
R73	1-249-347-11	CARBON MELF	10K	5%	1/8W	
R74	1-249-347-11	CARBON MELF	10K	5%	1/8W	
R75	1-249-343-11	CARBON MELF	4.7K	5%	1/8W	
R81	1-249-335-11	CARBON MELF	1K	5%	1/8W	
R82	1-249-335-11	CARBON MELF	1K	5%	1/8W	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description				Remark
R83	1-249-335-11	CARBON MELF	1K	5%	1/8W	
R84	1-249-335-11	CARBON MELF	1K	5%	1/8W	
R85	1-249-347-11	CARBON MELF	10K	5%	1/8W	
R86	1-249-335-11	CARBON MELF	1K	5%	1/8W	
R87	1-249-347-11	CARBON MELF	10K	5%	1/8W	
R88	1-249-343-11	CARBON MELF	4.7K	5%	1/8W	
R89	1-249-335-11	CARBON MELF	1K	5%	1/8W	
R90	1-249-343-11	CARBON MELF	4.7K	5%	1/8W	
R91	1-249-335-11	CARBON MELF	1K	5%	1/8W	
⚠R92	1-249-401-11	CARBON	47	5%	1/4W	F
R101	1-249-341-11	CARBON MELF	3.3K	5%	1/8W	
R102	1-249-332-11	CARBON MELF	560	5%	1/8W	
R103	1-249-335-11	CARBON MELF	1K	5%	1/8W	
R104	1-249-328-11	CARBON MELF	270	5%	1/8W	
R105	1-249-343-11	CARBON MELF	4.7K	5%	1/8W	
R106	1-249-339-11	CARBON MELF	2.2K	5%	1/8W	
R107	1-249-343-11	CARBON MELF	4.7K	5%	1/8W	
R108	1-249-323-11	CARBON MELF	100	5%	1/8W	
R109	1-249-343-11	CARBON MELF	4.7K	5%	1/8W	
⚠R110	1-249-405-11	CARBON	100	5%	1/4W	F
R111	1-249-341-11	CARBON MELF	3.3K	5%	1/8W	
R112	1-249-332-11	CARBON MELF	560	5%	1/8W	
R113	1-249-335-11	CARBON MELF	1K	5%	1/8W	
R114	1-249-328-11	CARBON MELF	270	5%	1/8W	
R115	1-249-351-11	CARBON MELF	22K	5%	1/8W	
R116	1-249-339-11	CARBON MELF	2.2K	5%	1/8W	
R117	1-249-343-11	CARBON MELF	4.7K	5%	1/8W	
R118	1-249-323-11	CARBON MELF	100	5%	1/8W	

< VARIABLE RESISTOR >

RV21	1-238-013-11	RES, ADJ, CARBON 2.2K
RV22	1-238-017-11	RES, ADJ, CARBON 22K
RV24	1-238-017-11	RES, ADJ, CARBON 22K

< TRANSFORMER >

T21	1-404-807-11	TRANSFORMER, DISCRIMINATOR

< TERMINAL BOARD >

* TM1	1-537-138-31	TERMINAL BOARD (ANT)

< TEST POINT >

* TP1	1-560-060-00	PIN, CONNECTOR 2P

< CRYSTAL >

XT81	1-577-126-11	VIBRATOR, CRYSTAL (7.2MHz)

****

Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS *************	
⚠10	1-575-651-11	CORD, POWER (AEP, EE)	
⚠10	1-575-652-11	CORD, POWER (UK)	
2	1-575-666-11	WIRE, FLAT TYPE (11 CORE)	
⚠CNJ801	1-526-751-00	OUTLET, AC (UK)	
⚠CNJ801	1-526-794-11	OUTLET, AC (AEP, EE)	
⚠CNJ802	1-526-751-00	OUTLET, AC (UK)	
⚠CNJ802	1-526-794-11	OUTLET, AC (AEP, EE)	

****

ACCESSORIES & PACKING MATERIALS
****

	4-920-940-01	SHEET (A), PROTECTION
*	4-929-563-01	CUSHION
*	4-952-208-01	INDIVIDUAL CARTON (FOR LBT-D507;AEP)
*	4-952-209-01	INDIVIDUAL CARTON (FOR LBT-D607;AEP)

****

HARDWARE LIST

#1	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S
#2	7-621-773-93	SCREW (PANEL 2.6 TP2)
#3	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S
#4	7-621-849-00	SCREW (BV/RING)
#5	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

9-957-004-11

Sony Corporation
Audio Group

English
92B1863-1
Printed in Japan
©1992.2
Published by Customer Relations and Service Group

CDP-M43/M54

SERVICE MANUAL

AEP Model
UK Model
E Model
Australian Model
CDP-M43

AEP Model
UK Model
E Model
CDP-M54

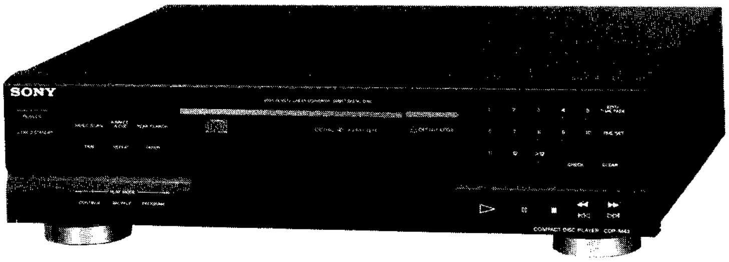

Photo : CDP-M43

CDP-M43 is the CD player section in
LBT-D507/ D607/ D707,
LBT-A50/A60/A70 series

Model Name Using Similar Mechanism	CDP-497/597
CD Mechanism Type	CDM-14L-5BD8A
Optical Pick-Up Block Type	BU-5BD8A

SPECIFICATIONS

Compact disc player

Frequency response	2 Hz to 20 kHz ±0.5 dB
Signal-to-noise ratio	More than 105 dB··········CDP-M54 More than 100 dB··········CDP-M43
Dynamic range	More than 98 dB ··········CDP-M54 More than 92 dB ··········CDP-M43
Harmonic distortion	Less than 0.003%··········CDP-M54 Less than 0.004%··········CDP-M43
Channel separation	More than 102 dB··········CDP-M54 More than 95 dB ··········CDP-M43

Outputs

LINE OUT (FIXED)(phono jacks)
Output level 2 V(at 50 kilohms)
Load impedance over 10 kilohms

LINE OUT (VARIABLE)(phono jacks)···········CDP-M54
Output level max. 2 V(at 50 kilohms)
Load impedance over 50 kilohms

PHONES (stereo phone jack)···········CDP-M54
Output level max. 10 mW
Load impedance 32 ohms

General

Power requirements	European model: 220 – 230V AC, 50/60Hz UK, Australian model: 240 V AC, 50Hz E model: 110 – 120, 220 – 240V AC, 50/60Hz
Power consumption	12 W
Dimensions (approx., including projections)	355 × 95 × 325 mm(w/h/d) (14 × 3¾ × 12⅞ inches)
Weight (approx.)	3.2 kg(7 lbs 1 oz)

Remote commander	(RM-D597)···········CDP-M54
Remote control system	Infrared control
Power requirements	3 V DC with two R6 (size AA) batteries
Dimensions (approx., including projections)	40 × 20 × 175 mm (w/h/d) (1⅝ × 13/16 × 7 inches)
Weight (approx.)	95 g(4 oz)
Supplied accessories	
Audio cord	(1)(2 Phono plugs-2 phono plugs)
Remote commander	(1)···········CDP-M54
Sony SUM-3 (NS) batteries	(2)···········CDP-M54

Design and specifications are subject to change without notice.

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

This Compact Disc player is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT label is located on the rear exterior.

MICROFILM

COMPACT DISC PLAYER

SONY®

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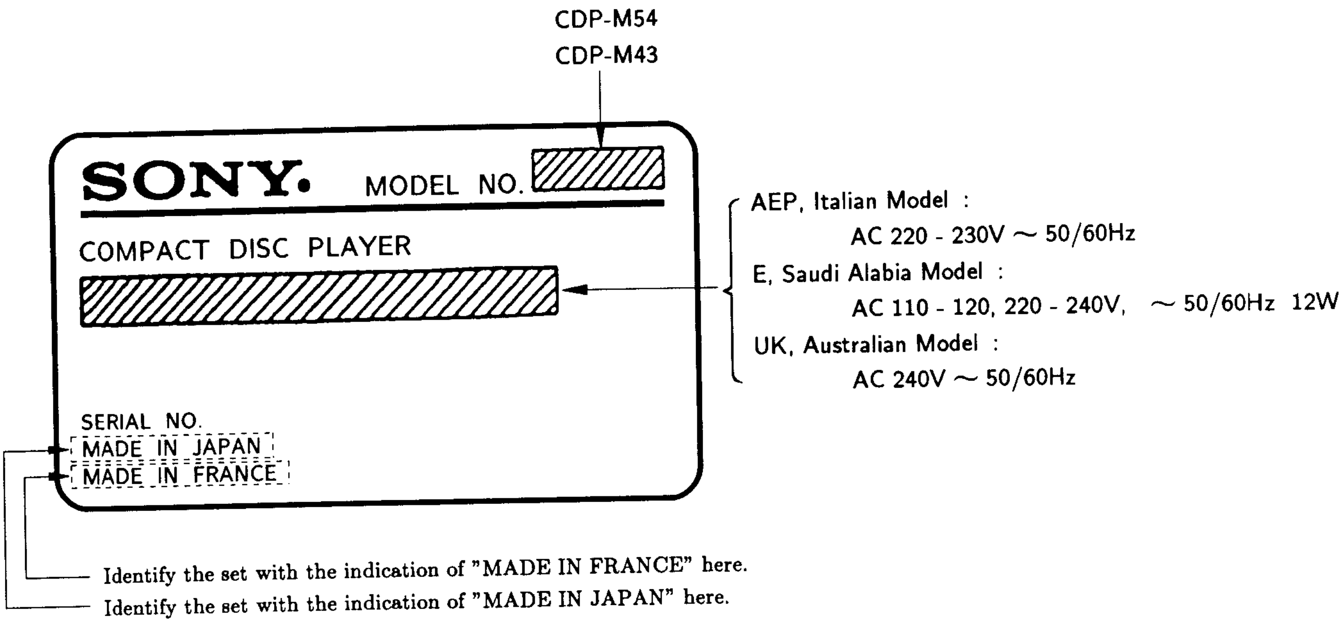
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MODEL IDENTIFICATION

- Specification Label -



CDP-M54
CDP-M43

AEP, Italian Model :
AC 220 - 230V ~ 50/60Hz
E, Saudi Alabia Model :
AC 110 - 120, 220 - 240V, ~ 50/60Hz 12W
UK, Australian Model :
AC 240V ~ 50/60Hz

Identify the set with the indication of "MADE IN FRANCE" here.
Identify the set with the indication of "MADE IN JAPAN" here.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

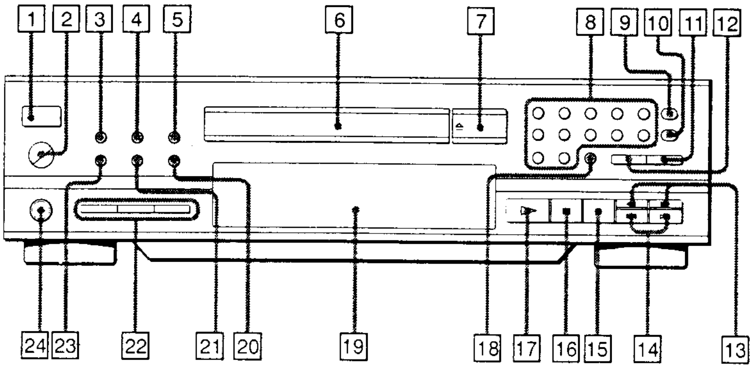
The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe more than 30cm away from the objective lens.

SECTION 1
GENERAL

This section is extracted from instruction manual.

1-1 IDENTIFYING THE PARTS

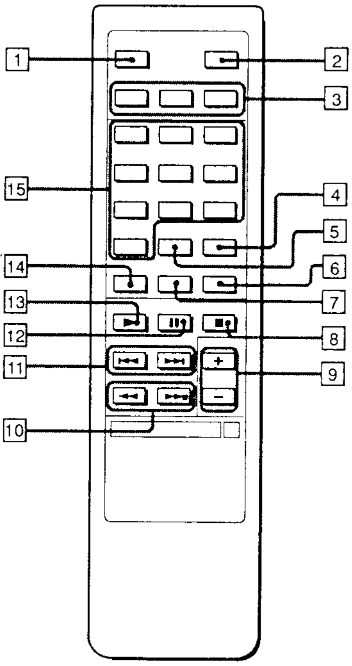
CDP-M54 model



Front Panel

1 POWER switch (20)
2 LINE OUT/PHONE LEVEL control (14)
3 MUSIC SCAN button (40)
4 A.SPACE/A.CUE button (28, 62)
5 PEAK SEARCH button (60)
6 Disc tray (20)
7 ⏏ OPEN/CLOSE button (20)
8 Numeric buttons (24, 38, 48, 52)
9 EDIT/TIME FADE button (52, 58)
10 TIME SET button (54, 58)
11 CLEAR (program clear) button (36, 42)
12 CHECK (program check) button (36)
13 ◀◀/▶▶(manual search) buttons (26, 46)
14 ⏮/⏭ (AMS*) buttons (24, 48)
15 ■ (stop) button (22)
16 ❚❚ (pause) button (22)
17 ▶ (play) button (22)
18 >12 (over 12) button (24)
19 Display window (20)
20 FADER button (46)
21 REPEAT button (44)
22 Play mode buttons
    CONTINUE button (30, 34, 38, 56)
    SHUFFLE button (30, 34, 38, 56)
    PROGRAM button (34, 48)
23 TIME button (22)
24 PHONES jack

* AMS is the abbreviation of Automatic Music Sensor.



Remote Commander ……CDP-M54

1 A. SPACE/A. CUE button (28, 62)
2 MUSIC SCAN button (40)
3 Play mode buttons
    CONTINUE button (30, 34, 38, 56)
    SHUFFLE button (30, 34, 38, 56)
    PROGRAM button (34, 48)
4 CLEAR (program clear) button (36, 42)
5 >10 (over 10) button (24)
6 FADER button (46)
7 REPEAT button (44)
8 ■ (stop) button (22)
9 LINE OUT LEVEL buttons (14)
10 ◀◀/▶▶ (manual search) buttons (26, 46)
11 ⏮/⏭ (AMS*) buttons (24, 48)
12 ❚❚ (pause) button (22)
13 ▶ (play) button (22)
14 TIME button (22)
15 Numeric buttons (24, 38, 48, 52)

* AMS is the abbreviation of Automatic Music Sensor.

SECTION 2
DISASSEMBLY

Note :

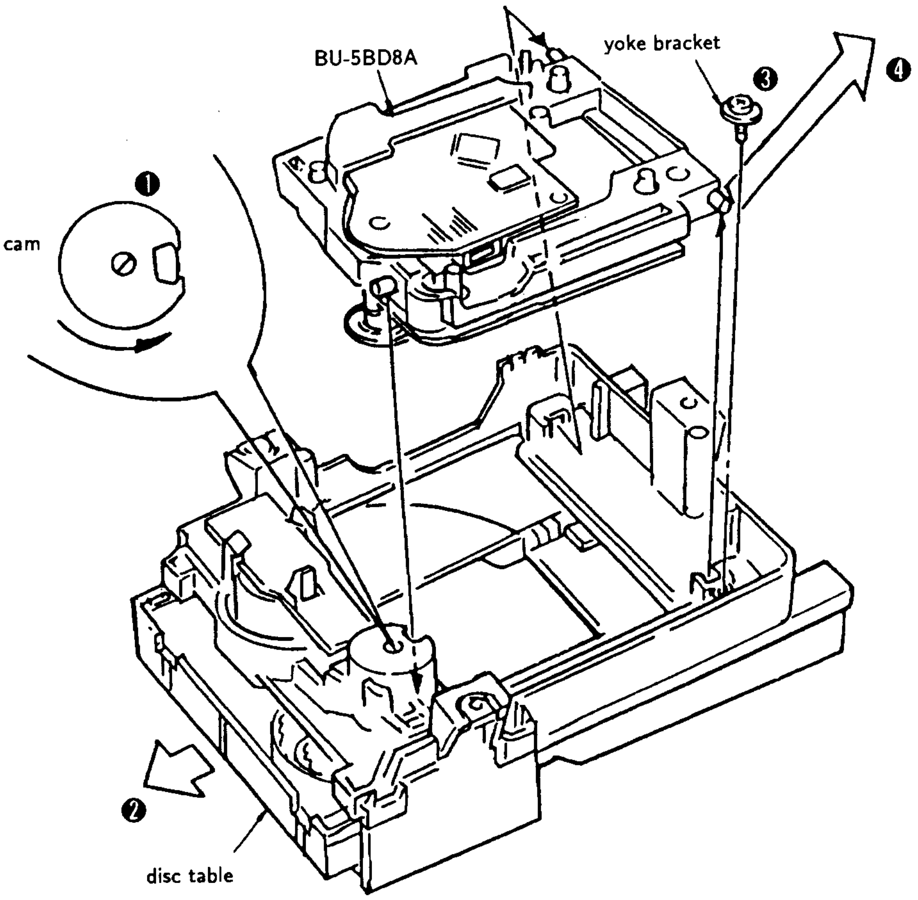
Follow the disassembly procedure in the nomerical order given.

❶ Turn the cam to the direction of arrow (Counter clock wise) by minus screw driver.

❷ Take off the disc table.

❸ Remove the yoke bracket.

❹ Remove the MD (BU-5BD8A) to the direction of arrow.

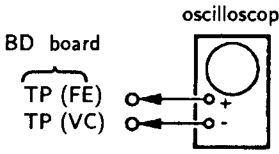

BU-5BD8A
yoke bracket
❸
❹
❶
cam
❷
disc table

SECTION 3
ELECTRICAL BLOCK CHECKING

Note :

1. CD Block basically constructed to operate with-out adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ im-pedance.
4. Clean an object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

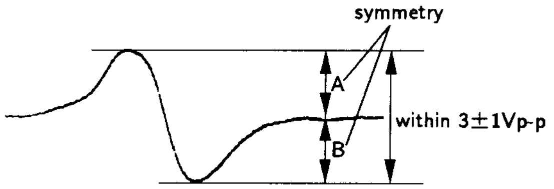
S Curve Check



Procedure :

1. Connect oscilloscope to test point TP (FE) on BD board.
2. Connect between test point TP (FEI) and TP (VC) by lead wire.
3. Turned Power switch on and actuate the focus serch. (actuate the focus serch when disc table is moving in and out.)
4. Check the oscilloscope waveform (S curve) is symmetrical between A and B. And confirm peak to peak level within 3±1Vp-p.

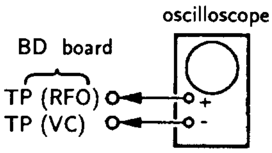
S curve waveform



5. After check, remove the lead wire connected in step 2.

Note : • Try to mesure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.
• Take sweep time as long as possible and light up the brightness to obtain best waveform.

RF Level Check



Procedure :

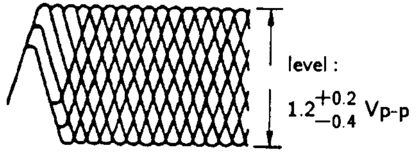
1. Connect oscilloscope to test point TP (RFO) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

Note :

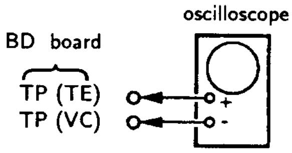
Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the wave-form.

RF signal waveform

VOLT/DIV : 200mV
TIME/DIV : 500nS



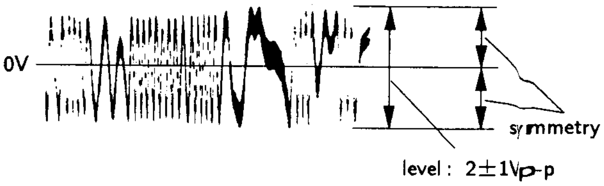
E-F Balance Check



Procedure :

1. Connect test point TP (ADJ) to ground and TP (TEI) to TP (VC) with lead wire.
2. Connect oscilloscope to test point TP (TE) on BD board.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and playback.
5. Confirm that the osilloscope waveform is sym-metrical on the top and bottom in relation to 0V, and check this level.

Traverse oscilloscope

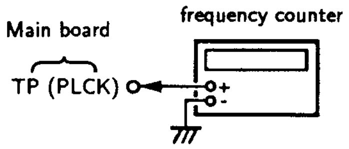


6. Remove the lead wire connected in step 1.

RF PLL Free-run Frequency Check

Procedure :

1. Connect frequency counter to test point (PLCK) with lead wire.

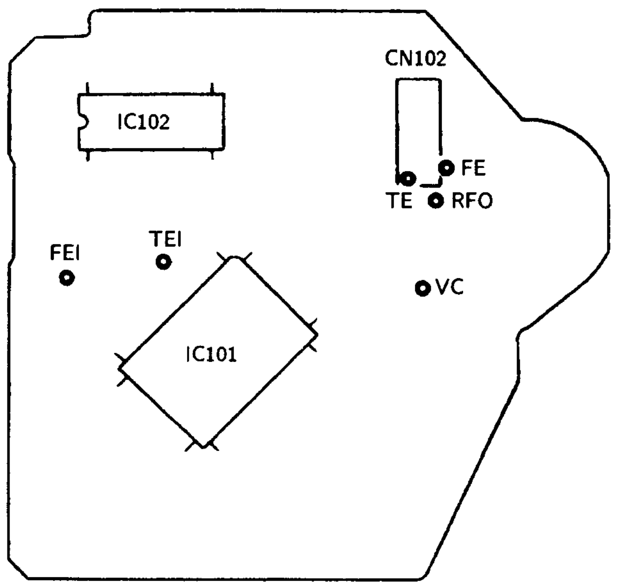

Main board
frequency counter
TP (PLCK)
+
-

2. Turn Power switch on.
3. Confirm that reading on frequency counter is 4. 3218 MHz.

Adjustment Location :

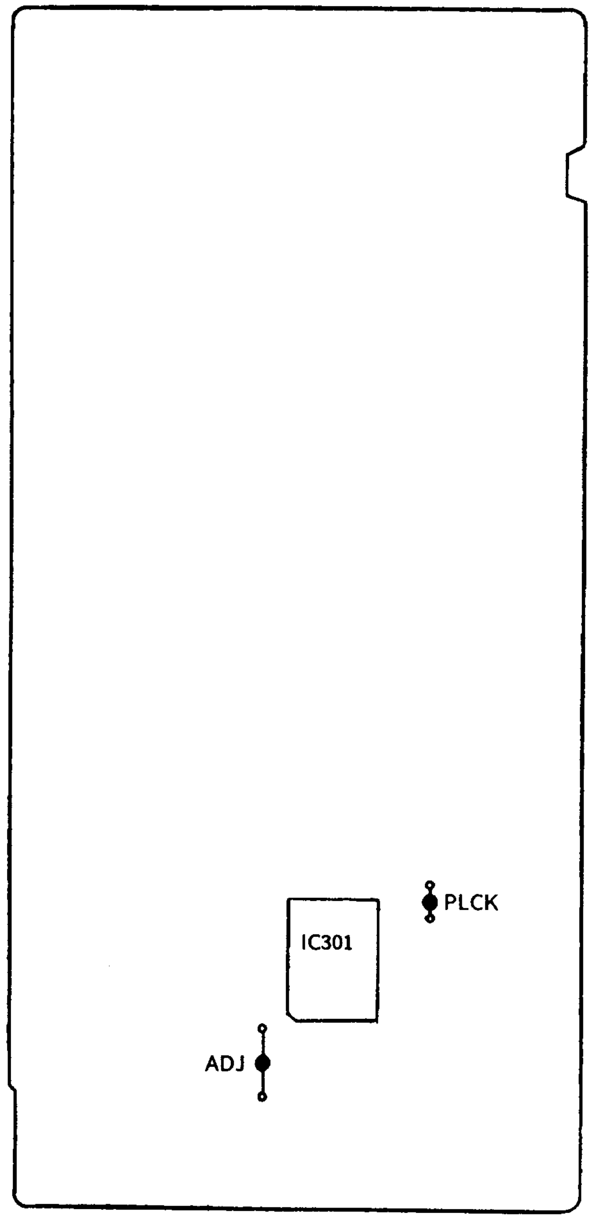
【BD BOARD】

- Solder side -


IC102
CN102
FE
TE
RFO
FEI
TEI
VC
IC101

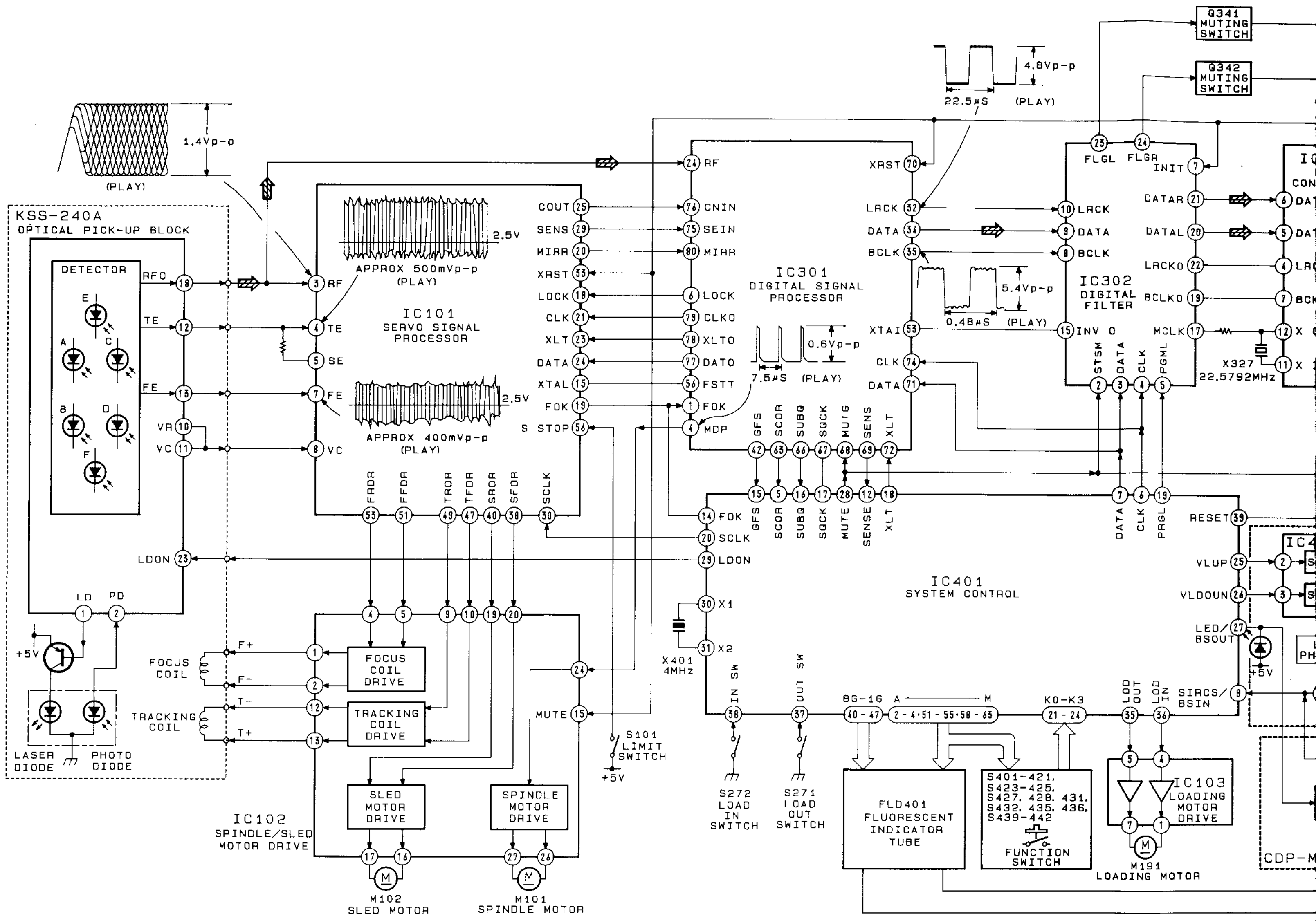
【MAIN BOARD】

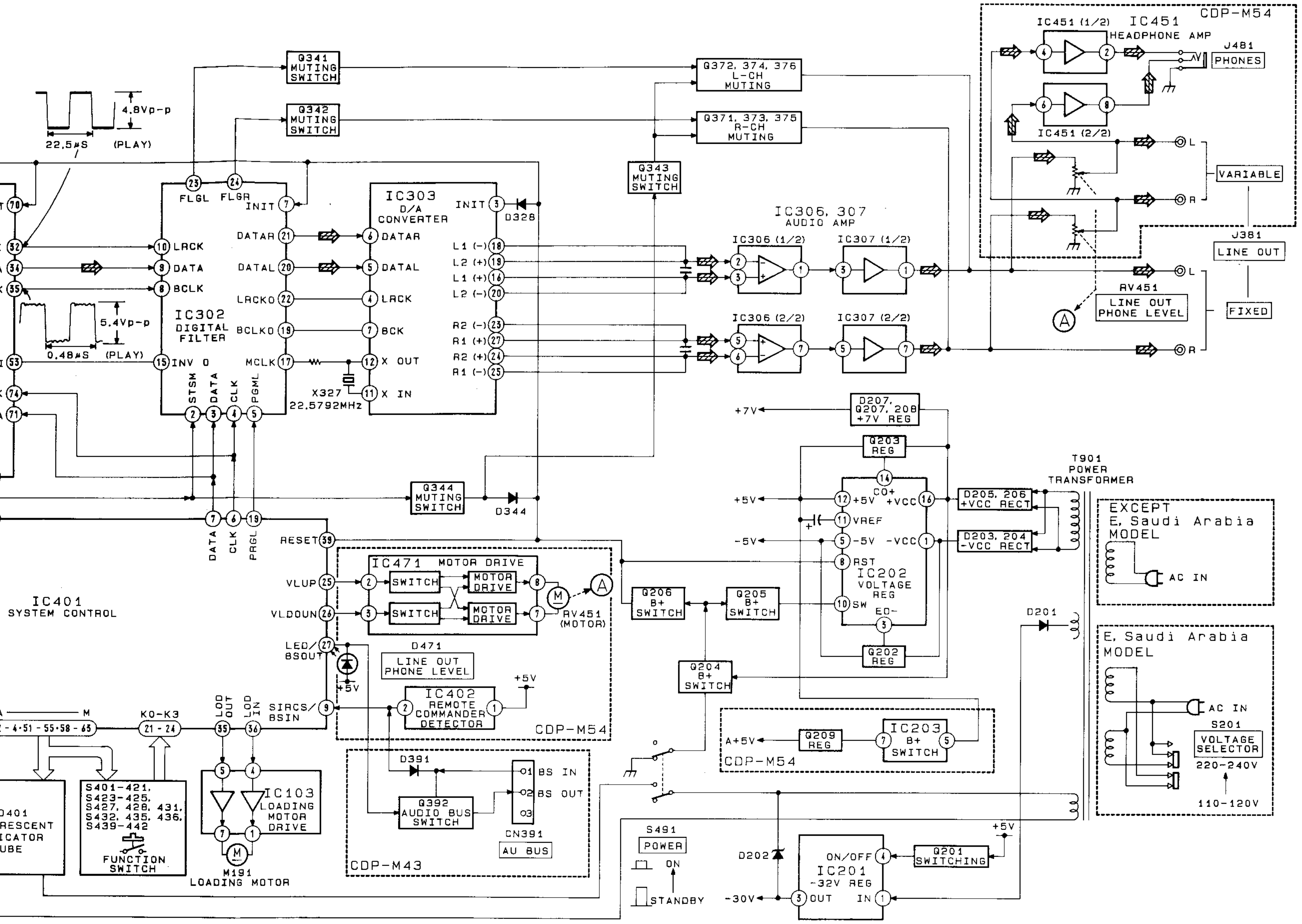
- Component side -


IC301
PLCK
ADJ

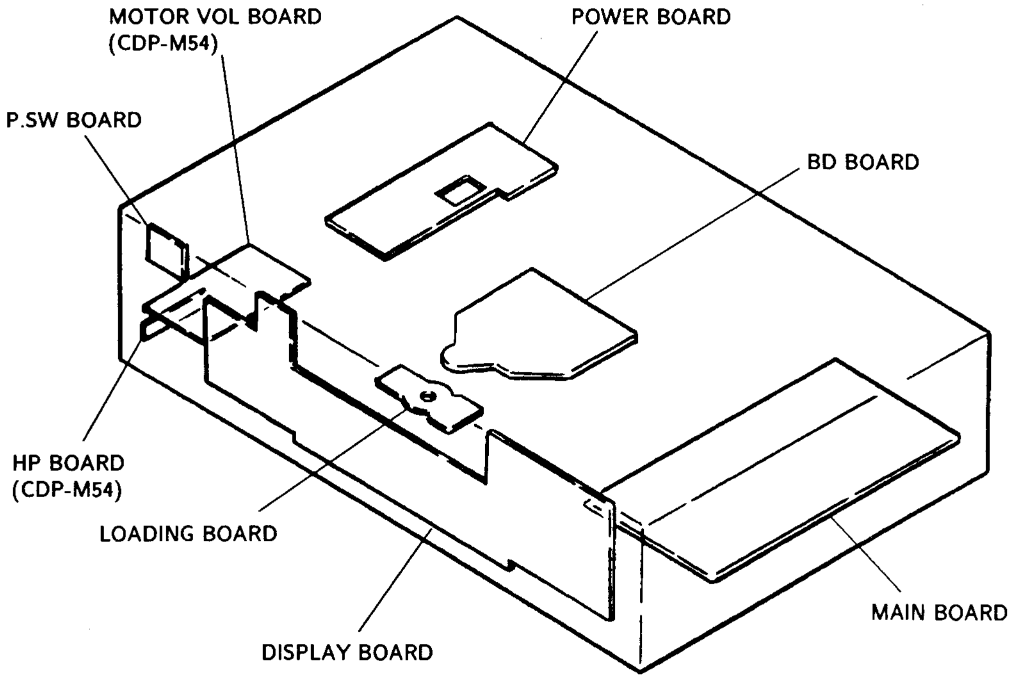
SECTION 4
DIAGRAMS

4-1 BLOCK DIAGRAM


1.4Vp-p
(PLAY)
KSS-240A
OPTICAL PICK-UP BLOCK
DETECTOR
RFO
TE
FE
VR
VC
LDON
LD
PD
+5V
LASER DIODE
PHOTO DIODE
FOCUS COIL
TRACKING COIL
F+
F-
T-
T+
IC101
SERVO SIGNAL PROCESSOR
APPROX 500mVp-p
(PLAY)
APPROX 400mVp-p
(PLAY)
2.5V
RF
TE
SE
FE
VC
COUT
SENS
MIRR
XRST
LOCK
CLK
XLT
DATA
XTAL
FOK
S STOP
FRDR
FFDR
TRDR
TFDR
SRDR
SFDR
SCLK
MUTE
FOCUS COIL DRIVE
TRACKING COIL DRIVE
SLED MOTOR DRIVE
SPINDLE MOTOR DRIVE
IC102
SPINDLE/SLED MOTOR DRIVE
M102
SLED MOTOR
M101
SPINDLE MOTOR
S101
LIMIT SWITCH
IC301
DIGITAL SIGNAL PROCESSOR
CNIN
SEIN
LOCK
CLKO
XLTO
DATO
FSTT
FOK
MDP
XRST
LRCK
DATA
BCLK
XTAI
CLK
0.6Vp-p
7.5μS
5.4Vp-p
0.48μS
4.8Vp-p
22.5μS
GFS
SCOR
SUBQ
SQCK
MUTG
SENS
XLT
IC302
DIGITAL FILTER
FLGL
FLGR
INIT
DATAR
DATAL
LRCKO
BCLKO
MCLK
INV O
STSM
X327
22.5792MHz
Q341
MUTING SWITCH
Q342
MUTING SWITCH
IC401
SYSTEM CONTROL
FOK
SCLK
LDON
X1
X2
X401
4MHz
IN SW
OUT SW
RESET
VLUP
VLDOUN
LED/BSOUT
SIRCS/BSIN
LOD OUT
LOD IN
8G-1G
A
M
KO-K3
S272
LOAD IN SWITCH
S271
LOAD OUT SWITCH
FLD401
FLUORESCENT INDICATOR TUBE
S401-421, S423-425, S427, 428, 431, S432, 435, 436, S439-442
FUNCTION SWITCH
IC103
LOADING MOTOR DRIVE
M191
LOADING MOTOR
CDP-M

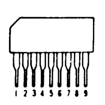

Q341 MUTING SWITCH
Q342 MUTING SWITCH
4.8Vp-p
22.5μS (PLAY)
FLGL FLGR
INIT
IC303 D/A CONVERTER
D328
DATAR
DATAL
LRCKO
BCLKO
MCLK
X327 22.5792MHz
X OUT
X IN
LRCK
DATA
BCLK
5.4Vp-p
0.48μS (PLAY)
IC302 DIGITAL FILTER
INV O
STSM DATA CLK PGML
L1 (–) L2 (+) L1 (+) L2 (–)
R2 (–) R1 (+) R2 (+) R1 (–)
Q372, 374, 376 L-CH MUTING
Q371, 373, 375 R-CH MUTING
Q343 MUTING SWITCH
IC306, 307 AUDIO AMP
IC306 (1/2)
IC307 (1/2)
IC306 (2/2)
IC307 (2/2)
IC451 (1/2) IC451 HEADPHONE AMP
IC451 (2/2)
CDP-M54
J481 PHONES
VARIABLE
J381 LINE OUT
RV451
LINE OUT PHONE LEVEL
FIXED
D207, Q207, 208 +7V REG
+7V
Q203 REG
+5V
-5V
CO+
+5V +VCC
VREF
-5V -VCC
RST
IC202 VOLTAGE REG
SW ED-
Q202 REG
D205, 206 +VCC RECT
D203, 204 -VCC RECT
T901 POWER TRANSFORMER
EXCEPT E. Saudi Arabia MODEL
AC IN
E. Saudi Arabia MODEL
S201 VOLTAGE SELECTOR
220–240V
110–120V
Q344 MUTING SWITCH
D344
DATA CLK PRGL
RESET
VLUP
VLDOWN
LED/ BSOUT
SIRCS/ BSIN
IC401 SYSTEM CONTROL
IC471 MOTOR DRIVE
SWITCH
MOTOR DRIVE
RV451 (MOTOR)
D471
LINE OUT PHONE LEVEL
IC402 REMOTE COMMANDER DETECTOR
+5V
Q206 B+ SWITCH
Q205 B+ SWITCH
Q204 B+ SWITCH
A+5V
Q209 REG
IC203 B+ SWITCH
D201
LOD OUT
LOD IN
K0–K3
S401–421, S423–425, S427, 428, 431, S432, 435, 436, S439–442
FUNCTION SWITCH
IC103 LOADING MOTOR DRIVE
M191 LOADING MOTOR
D391
Q392 AUDIO BUS SWITCH
BS IN
BS OUT
CN391 AU BUS
CDP-M43
S491 POWER
ON
STANDBY
D202
ON/OFF
IC201 -32V REG
OUT IN
-30V
Q201 SWITCHING
RESCENT
ICATOR
UBE

4-2 CIRCUIT BOARDS LOCATION

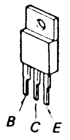

MOTOR VOL BOARD (CDP-M54)
POWER BOARD
P.SW BOARD
BD BOARD
HP BOARD (CDP-M54)
LOADING BOARD
MAIN BOARD
DISPLAY BOARD

4-3 SEMICONDUCTOR LEAD LAYOUTS

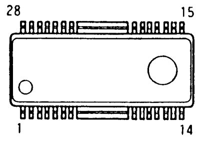
BA6208
RC4556S



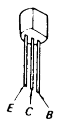
2SB1094-LK



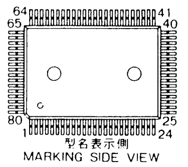
BA6297AFP



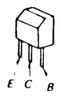
2SC1815-Y
2SC2878-AB



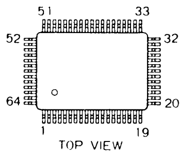
CXD2500AQ


64
41
65
40
80
25
1
24
型名表示側
MARKING SIDE VIEW

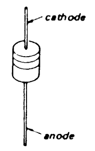
2SD774-34



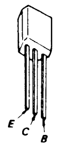
CXD2501Q


51
33
52
32
64
20
1
19
TOP VIEW

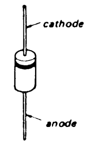
RD5.6ES-B2
RD7.5ES-B2
RD7.5JS-B2
RD9.1ES-L
11ES2


cathode
anode

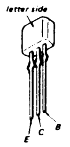
DTA144ES
DTC114ES
DTC144ES
2SC2458-YGR



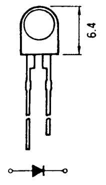
1N4148M
10E2


cathode
anode

2SA1175-HFE
2SC3623A-LK


letter side
E C B

BR4361F



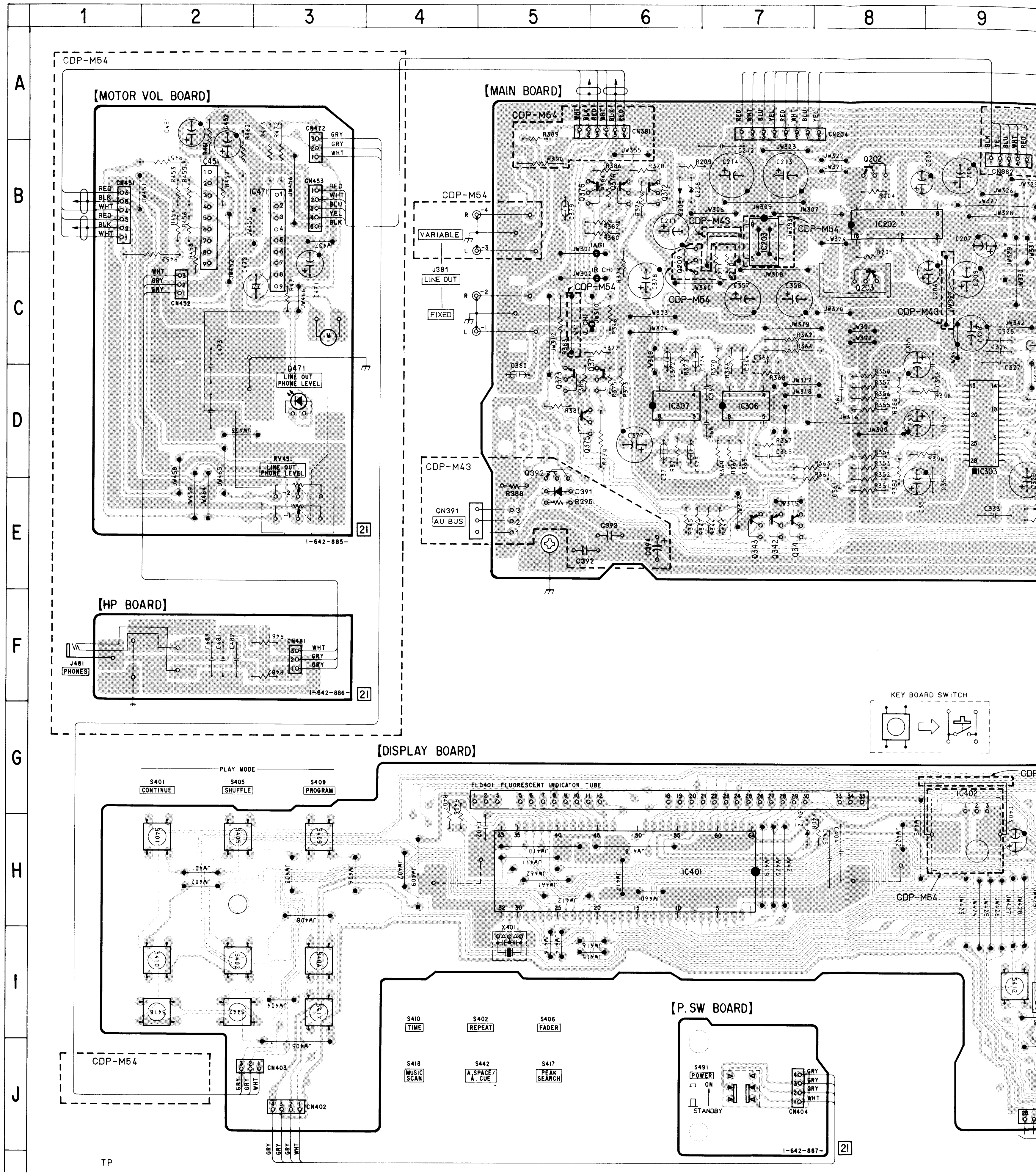
• SEMICONDUCTOR LOCATION

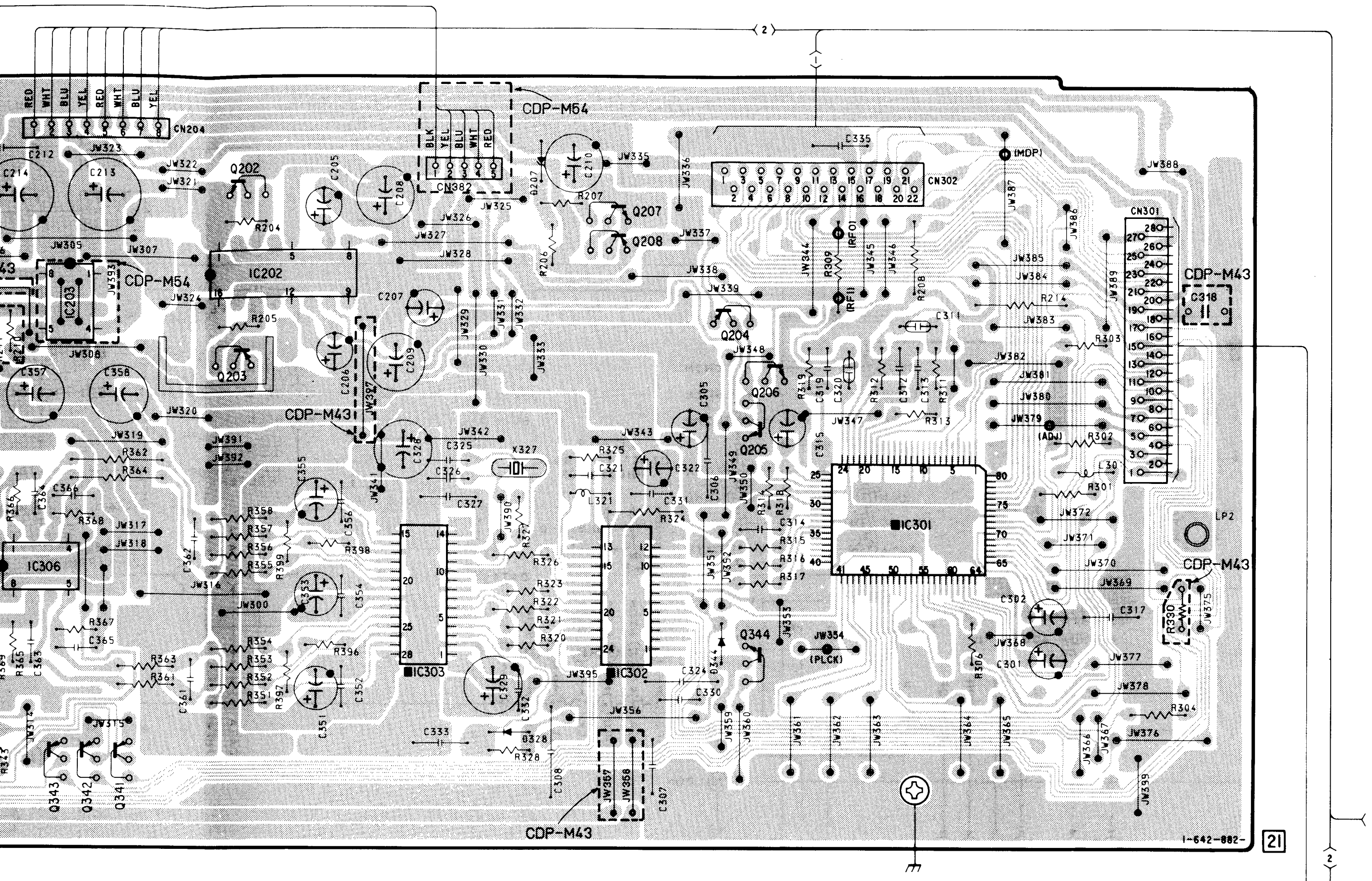
Ref. No.	Location	Ref. No.	Location
D201	J-16	IC203	B-7
D202	J-15	IC301	D-12
D203	I-16	IC302	D-10
D204	I-16	IC303	D-9
D205	I-16	IC306	D-7
D206	I-16	IC307	D-6
D207	B-10	IC401	H-6
D208	B-6	IC402	G-9
D209	B-6	IC451	B-2
D328	E-10	IC471	B-3
D344	D-11		
D391	E-5	Q201	J-15
D401	H-12	Q202	B-8
D402	H-12	Q203	C-8
D403	H-12	Q204	B-11
D404	H-11	Q205	C-11
D405	H-11	Q206	C-11
D406	H-11	Q207	B-10
D407	I-13	Q208	B-10
D408	H-11	Q209	C-6
		Q341	E-7
D409	H-10		
D410	H-10	Q342	E-7
D411	H-10	Q343	E-7
D412	H-7	Q344	D-11
D471	D-3	Q371	D-6
		Q372	B-6
IC101	C-16	Q373	D-5
IC102	B-16	Q374	B-6
IC103	B-17	Q375	D-5
IC201	J-15	Q376	B-6
IC202	B-8	Q392	D-5

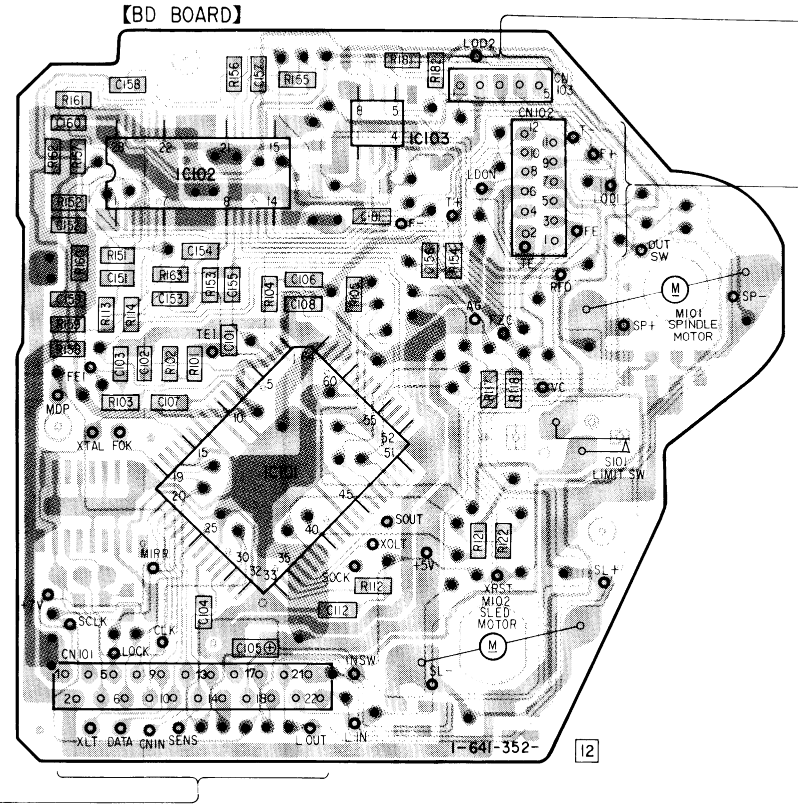
Note :

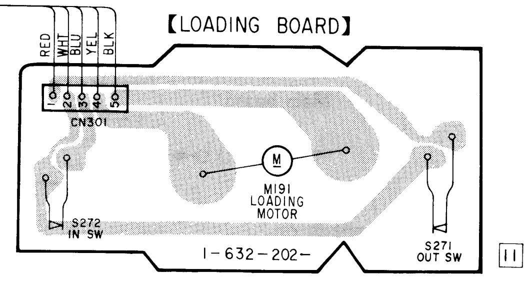
- ○— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ● : Through hole.
- ▨ : Pattern on the side which is seen.
- ▨ : Pattern of the rear side.

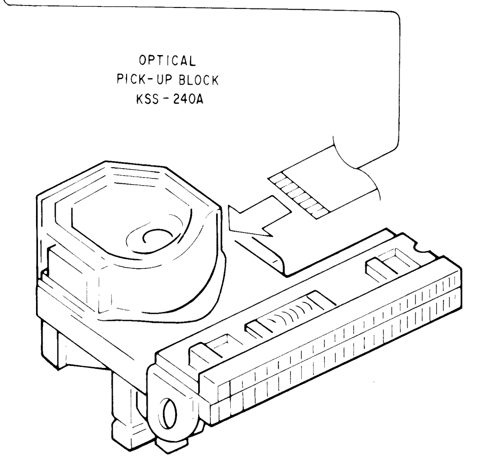
4-4 PRINTED WIRING BOARDS

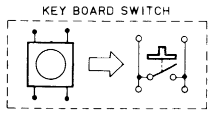

1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
H
I
J
CDP-M54
[MOTOR VOL BOARD]
IC451
IC471
CN451
CN452
CN453
CN472
D471
LINE OUT PHONE LEVEL
RV451
LINE OUT PHONE LEVEL
1-642-885-
21
[MAIN BOARD]
CDP-M54
CN381
CN204
Q202
IC202
IC203
IC307
IC306
IC303
Q203
CDP-M43
VARIABLE
J381
LINE OUT
FIXED
CN391
AU BUS
Q392
D391
Q341
Q342
Q343
[HP BOARD]
J481
PHONES
CN481
1-642-886-
21
KEY BOARD SWITCH
[DISPLAY BOARD]
PLAY MODE
S401
CONTINUE
S405
SHUFFLE
S409
PROGRAM
FLD401 FLUORESCENT INDICATOR TUBE
IC401
IC402
X401
S410
TIME
S402
REPEAT
S406
FADER
S418
MUSIC SCAN
S442
A.SPACE/A.CUE
S417
PEAK SEARCH
CN403
CN402
[P.SW BOARD]
S491
POWER
ON
STANDBY
CN404
1-642-887-
21
TP


CN204
CDP-M64
CN382
IC202
CDP-M54
IC203
Q202
Q203
Q204
Q205
Q206
Q207
Q208
CN302
IMDP1
CN301
CDP-M43
C318
IC301
IC302
IC303
IC306
Q341
Q342
Q343
Q344
(PLCK)
(ADJ)
LP2
1-642-882-
21


【BD BOARD】
IC101
IC102
IC103
CN101
CN102
CN103
LOD2
M101 SPINDLE MOTOR
M102 SLED MOTOR
S101 LIMIT SW
OUT SW
XTAL
FOK
MDP
MIRR
SCLK
LOCK
SENS
XLT
DATA
CNIN
L OUT
L IN
1-641-352-
12


【LOADING BOARD】
RED
WHT
BLU
YEL
BLK
CN301
M191 LOADING MOTOR
S272 IN SW
S271 OUT SW
1-632-202-
11


OPTICAL
PICK-UP BLOCK
KSS-240A


KEY BOARD SWITCH

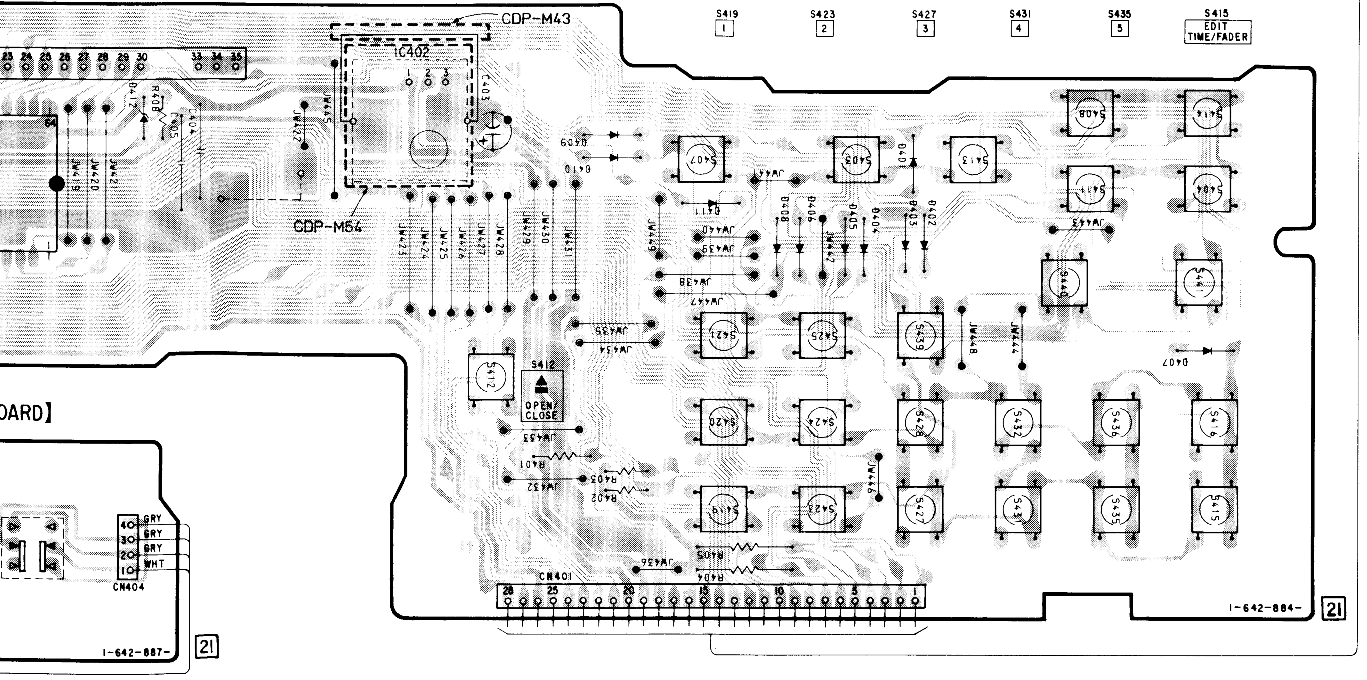
S407 ▶ S403 ❚❚ S413 ■ S408 ⏮ S414 ⏭

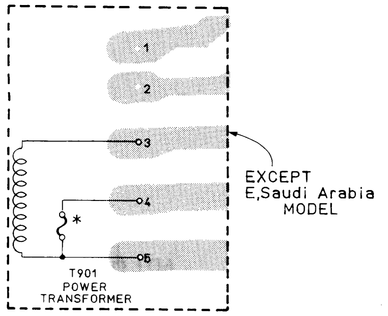
S411 ◁◁ S404 ▷▷

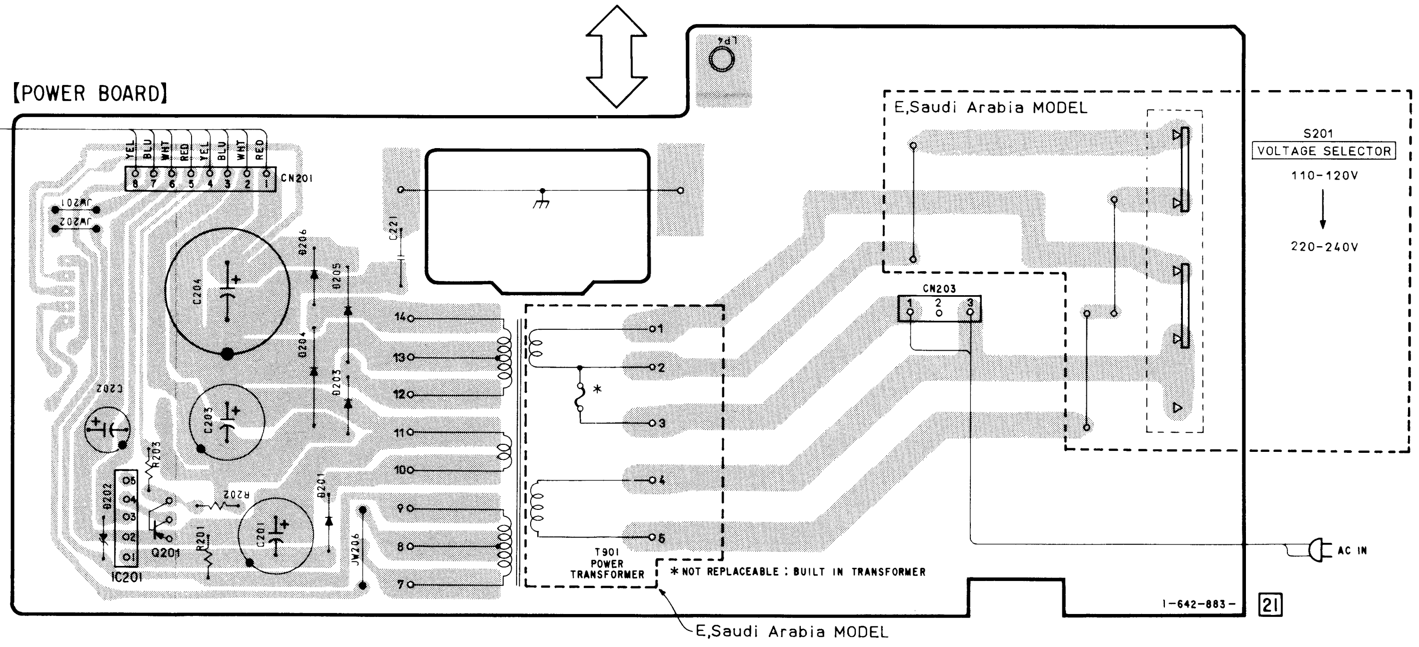
S421 11 S425 12 S439 >12 S440 CHECK S441 CLEAR

S420 6 S424 7 S428 8 S432 9 436 10 S416 TIME SET

S419 1 S423 2 S427 3 S431 4 S435 5 S415 EDIT TIME/FADER


CDP-M43
IC402
CDP-M54
S412 OPEN/CLOSE
CN401
CN404
GRY
WHT
OARD】
1-642-887-
21
1-642-884-
21

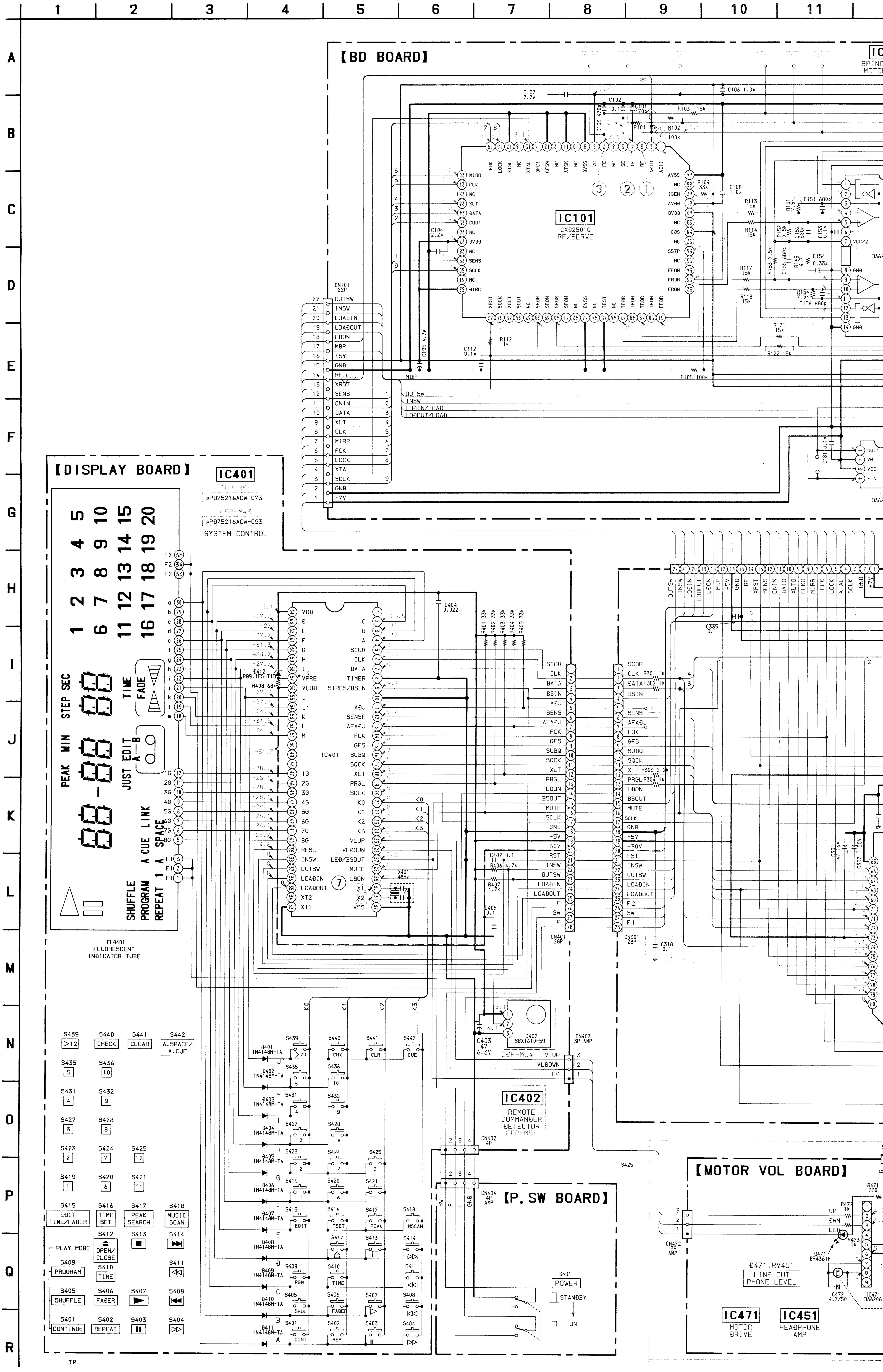

EXCEPT
E,Saudi Arabia
MODEL
T901
POWER
TRANSFORMER

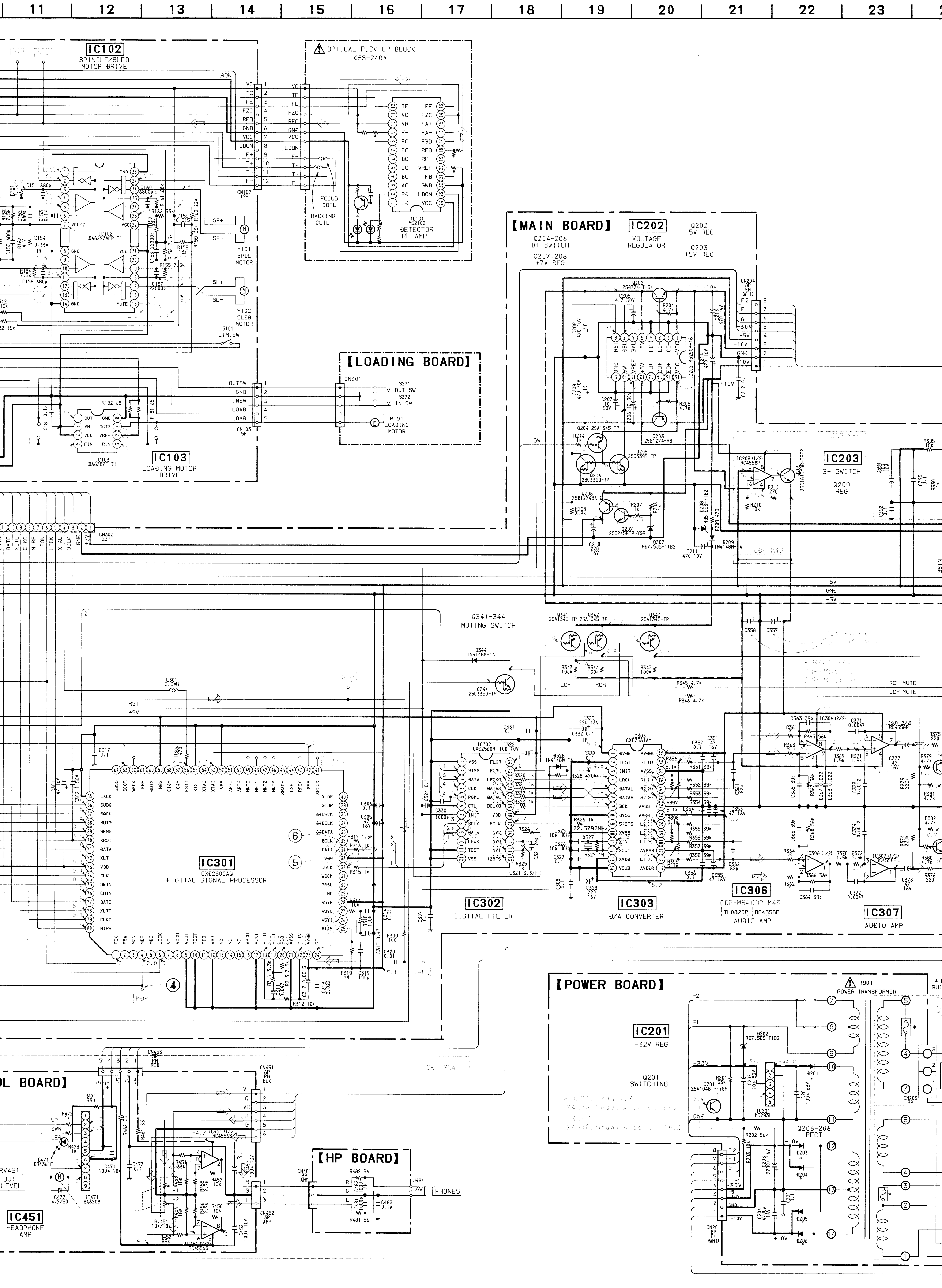

【POWER BOARD】
CN201
CN203
IC201
Q201
T901 POWER TRANSFORMER
* NOT REPLACEABLE : BUILT IN TRANSFORMER
E,Saudi Arabia MODEL
S201
VOLTAGE SELECTOR
110-120V
220-240V
AC IN
LP4
1-642-883-
21

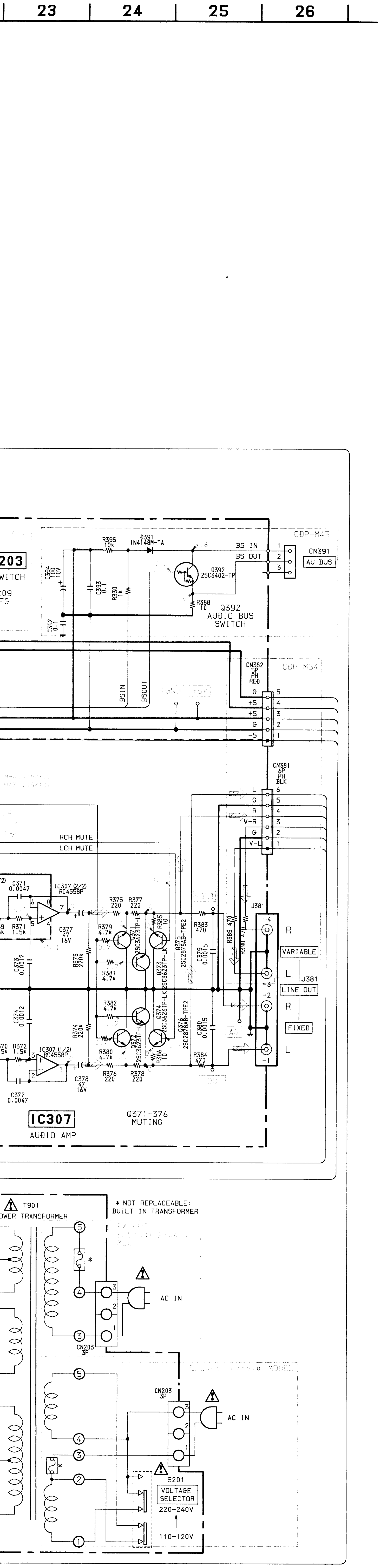
E,Saudi Arabia MODEL

4-5 SCHEMATIC DIAGRAM

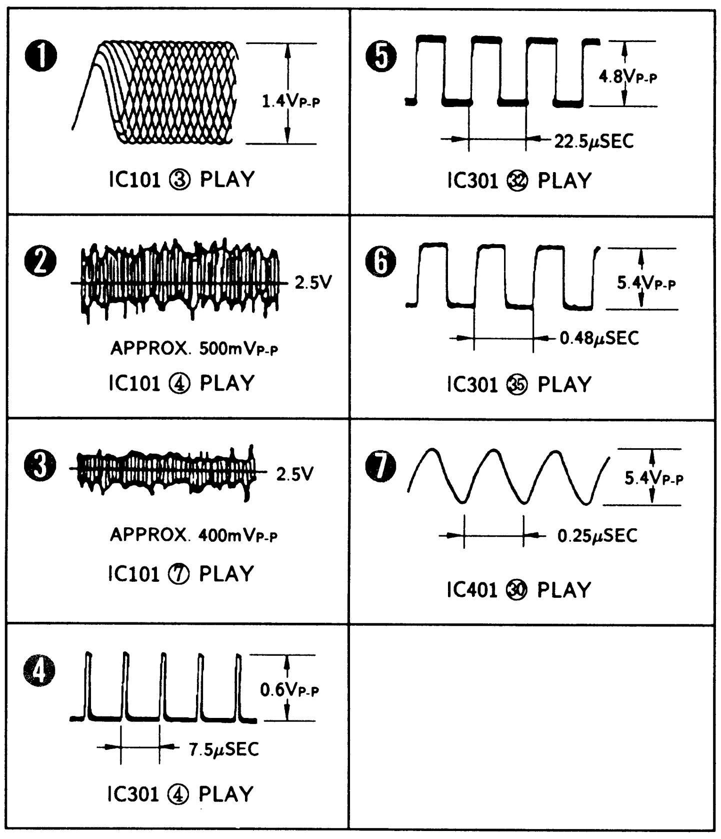
• Refer to Page 20 for IC Block Diagrams.


【BD BOARD】
IC101
CXD2501Q
RF/SERVO
CN101
22P
【DISPLAY BOARD】
IC401
μPD75216ACW-C73
μPD75216ACW-C93
SYSTEM CONTROL
FLD401
FLUORESCENT
INDICATOR TUBE
CN401
28P
CN301
28P
IC402
SBX1610-59
REMOTE
COMMANDER
DETECTOR
CN403
3P AMP
CN402
4P
CN404
4P
AMP
【P.SW BOARD】
S491
POWER
STANDBY
ON
【MOTOR VOL BOARD】
CN472
3P
AMP
D471, RV451
LINE OUT
PHONE LEVEL
IC471
MOTOR
DRIVE
IC451
HEADPHONE
AMP
S439 >12
S440 CHECK
S441 CLEAR
S442 A.SPACE/A.CUE
S415 EDIT TIME/FADER
S416 TIME SET
S417 PEAK SEARCH
S418 MUSIC SCAN
S412 OPEN/CLOSE
S413
S414
PLAY MODE
S409 PROGRAM
S410 TIME
S411
S405 SHUFFLE
S406 FADER
S407
S408
S401 CONTINUE
S402 REPEAT
S403
S404
SHUFFLE
PROGRAM
REPEAT 1 A
CUE
SPACE
LINK
JUST EDIT A—B
PEAK MIN STEP SEC
TIME FADE
TP

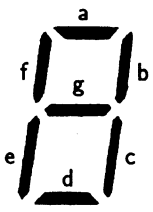

11
12
13
14
15
16
17
18
19
20
21
22
23
IC102
SPINDLE/SLED MOTOR DRIVE
OPTICAL PICK-UP BLOCK
KSS-240A
IC101
M52102
DETECTOR RF AMP
FOCUS COIL
TRACKING COIL
CN102 12P
M101 SPDL MOTOR
M102 SLED MOTOR
S101 LIM. SW
IC102 BA6297AFP-T1
【LOADING BOARD】
CN301
S271 OUT SW
S272 IN SW
M191 LOADING MOTOR
CN103 5P
IC103
BA6287F-T1
LOADING MOTOR DRIVE
【MAIN BOARD】
IC202
VOLTAGE REGULATOR
Q204-206 B+ SWITCH
Q207.208 +7V REG
Q202 -5V REG
Q203 +5V REG
CN204 8P EH (WHT)
IC202 M5290P-16
IC203
B+ SWITCH
Q209 REG
CN302 22P
Q341-344
MUTING SWITCH
LCH
RCH
RCH MUTE
LCH MUTE
RST
+5V
-5V
GND
IC301
CXD2500AQ
DIGITAL SIGNAL PROCESSOR
IC302
CXD2560M
DIGITAL FILTER
IC303
CXD2561AM
D/A CONVERTER
X327 22.5792MHz
IC306
CDP-M54 CDP-M43
TL082CP RC4558P
AUDIO AMP
IC307
AUDIO AMP
【POWER BOARD】
T901
POWER TRANSFORMER
IC201
-32V REG
IC201 M5293L
Q201
SWITCHING
Q203-206
RECT
CN201 8P EH (WHT)
CN203 3P
L BOARD】
CN453 5P PH RED
CN451 6P PH BLK
IC471 BA6208
RV451
OUT LEVEL
IC451
HEADPHONE AMP
IC451 RC4556S
【HP BOARD】
CN481 3P AMP
CN452 3P AMP
J481
PHONES
④
⑤
⑥


23
24
25
26
203
WITCH
209
EG
CDP-M43
R395 10k
D391 1N4148M-TA
BS IN
BS OUT
CN391
AU BUS
C394 100 10V
C393 0.1
R330 1k
Q392 2SC3402-TP
R388 10
Q392
AUDIO BUS
SWITCH
C392 0.1
BSIN
BSOUT
CN382 5P PH RED
CDP-M54
G
+5
+5
G
-5
CN381 6P PH BLK
L
G
R
V-R
G
V-L
RCH MUTE
LCH MUTE
C371 0.0047
IC307 (2/2) RC4558P
R371 1.5k
C377 47 16V
R375 220
R377 220
R379 4.7k
Q371 2SC3623TP-LK
R385 10
Q375 2SC2878AB-TPE2
R383 470
C379 0.0015
R389 470
R390 470
J381
VARIABLE
LINE OUT
FIXED
R
L
C373 0.0012
R373 220k
R381 4.7k
Q373 2SC3623TP-LK
C374 0.0012
R374 220k
R382 4.7k
Q374 2SC3623TP-LK
Q376 2SC2878AB-TPE2
C380 0.0015
R372 1.5k
IC307 (1/2) RC4558P
R380 4.7k
Q372 2SC3623TP-LK
R386 10
R384 470
C378 47 16V
R376 220
R378 220
C372 0.0047
IC307
AUDIO AMP
Q371-376
MUTING
T901
OWER TRANSFORMER
* NOT REPLACEABLE:
BUILT IN TRANSFORMER
AC IN
CN203 3P
CN203 3P
AC IN
S201
VOLTAGE SELECTOR
220-240V
110-120V

WAVEFORMS



FLD401

	8G	7G	6G	5G	4G	3G	2G	1G
a							1	3
b							2	4
c								5
d							6	8
e							7	9
f								10
g								
h	►		PEAK	MIN	STEP	SEC	11	13
i	❚❚		−	•			12	14
j	SHUFFLE		JUST	EDIT		TIME		15
k	PROGRAM		A. CUE	A		▮▮▮►	16	18
l	REPEAT		LINK	B		◄▮▮▮	17	19
m	1		A. SPACE	🖭		FADE		20

Note :

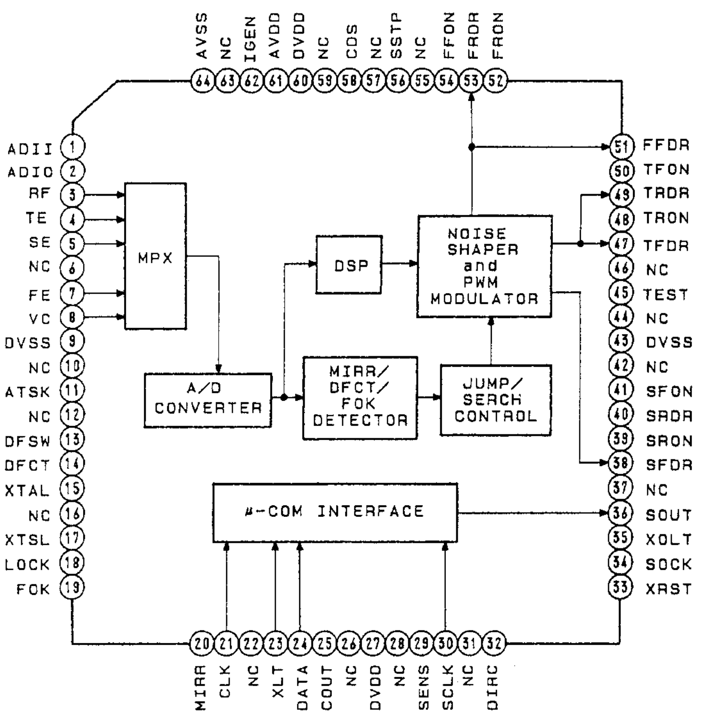
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- △ : internal component.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

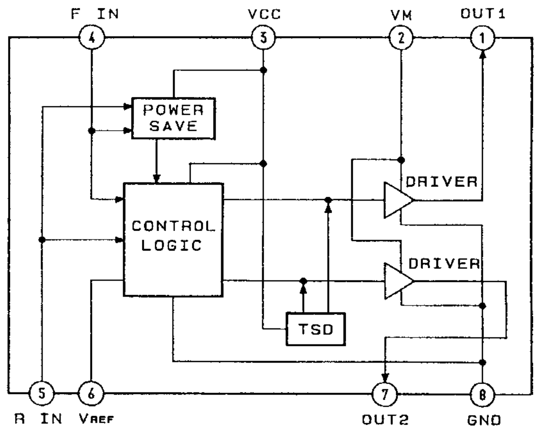
- ▬▬ : B + Line
- ▬ ▬ ▬ : B − Line
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark : STOP
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD

4-6 IC BLOCK DIAGRAM

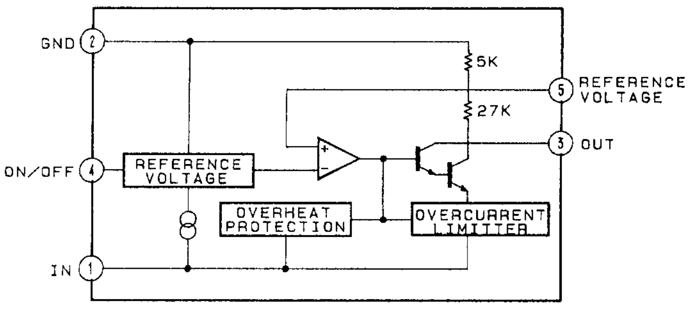
IC101 CXD2501


AVSS 64
NC 63
IGEN 62
AVDD 61
DVDD 60
NC 59
CDS 58
NC 57
SSTP 56
NC 55
FFON 54
FRDR 53
FRON 52
ADII 1
ADIO 2
RF 3
TE 4
SE 5
NC 6
FE 7
VC 8
DVSS 9
NC 10
ATSK 11
NC 12
DFSW 13
DFCT 14
XTAL 15
NC 16
XTSL 17
LOCK 18
FOK 19
FFDR 51
TFON 50
TRDR 49
TRON 48
TFDR 47
NC 46
TEST 45
NC 44
DVSS 43
NC 42
SFON 41
SRDR 40
SRON 39
SFDR 38
NC 37
SOUT 36
XOLT 35
SOCK 34
XRST 33
MIRR 20
CLK 21
NC 22
XLT 23
DATA 24
COUT 25
NC 26
DVDD 27
NC 28
SENS 29
SCLK 30
NC 31
DIRC 32
MPX
DSP
NOISE SHAPER and PWM MODULATOR
A/D CONVERTER
MIRR/DFCT/FOK DETECTOR
JUMP/SERCH CONTROL
μ-COM INTERFACE

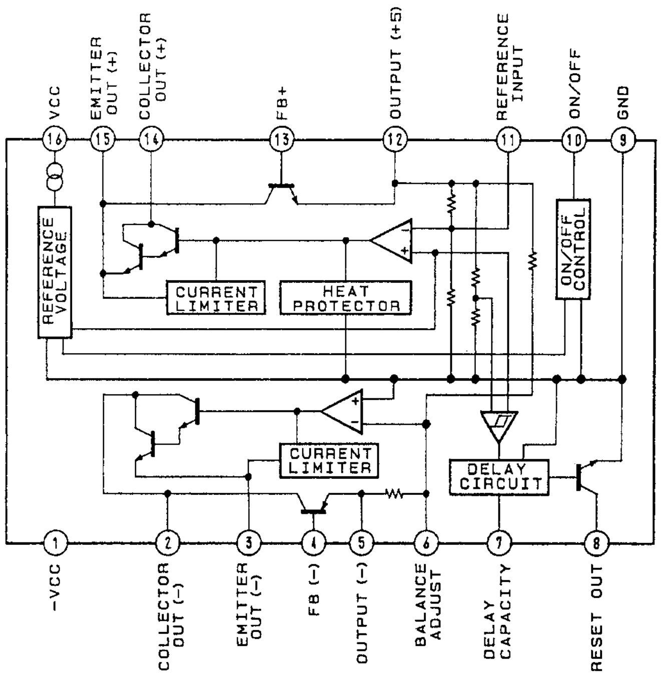
IC103 BA6287F


F IN 4
VCC 3
VM 2
OUT1 1
POWER SAVE
CONTROL LOGIC
DRIVER
DRIVER
TSD
R IN 5
VREF 6
OUT2 7
GND 8

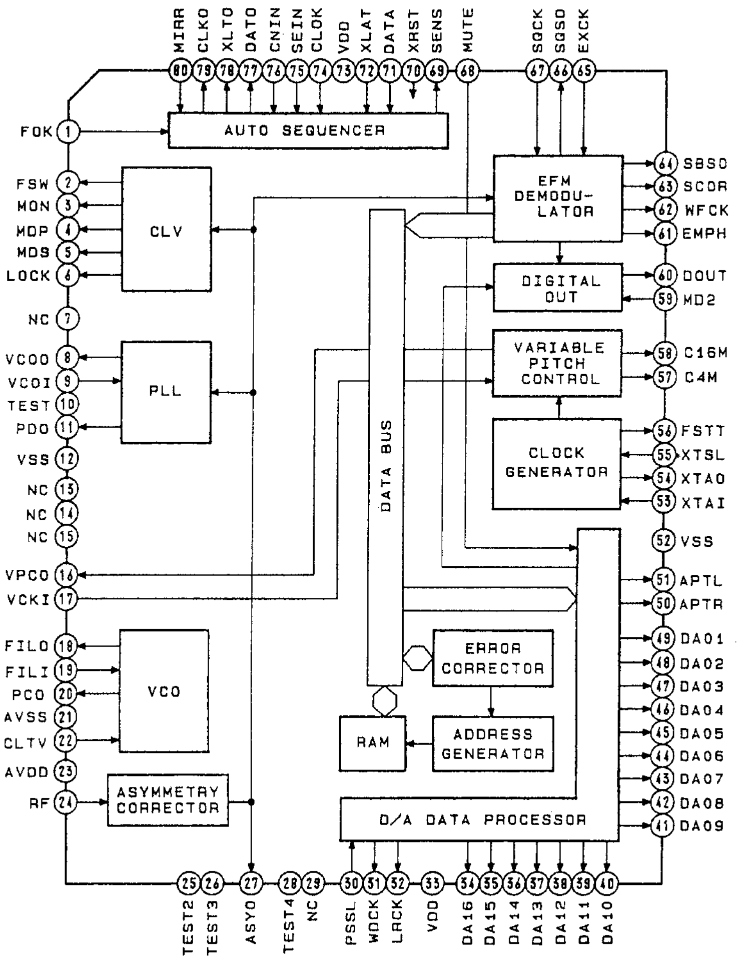
IC201 M5293L


GND 2
ON/OFF 4
IN 1
5K
27K
REFERENCE VOLTAGE 5
OUT 3
REFERENCE VOLTAGE
OVERHEAT PROTECTION
OVERCURRENT LIMITTER

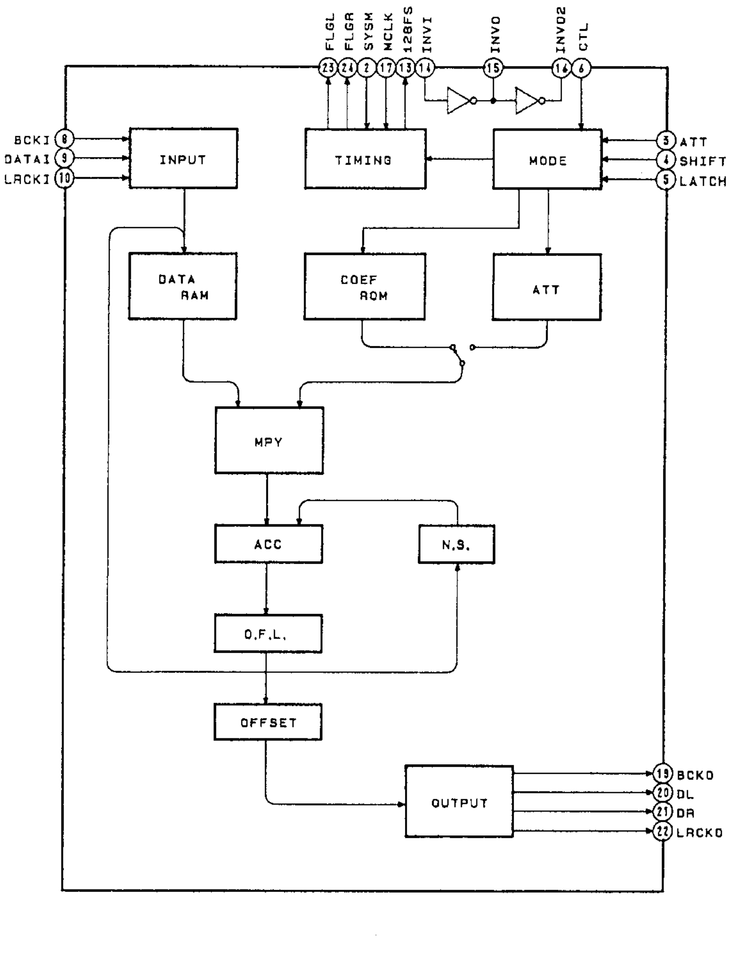
IC202 M5290P-16


VCC 16
EMITTER OUT (+) 15
COLLECTOR OUT (+) 14
FB+ 13
OUTPUT (+5) 12
REFERENCE INPUT 11
ON/OFF 10
GND 9
REFERENCE VOLTAGE
CURRENT LIMITER
HEAT PROTECTOR
ON/OFF CONTROL
CURRENT LIMITER
DELAY CIRCUIT
1 -VCC
2 COLLECTOR OUT (-)
3 EMITTER OUT (-)
4 FB (-)
5 OUTPUT (-)
6 BALANCE ADJUST
7 DELAY CAPACITY
8 RESET OUT

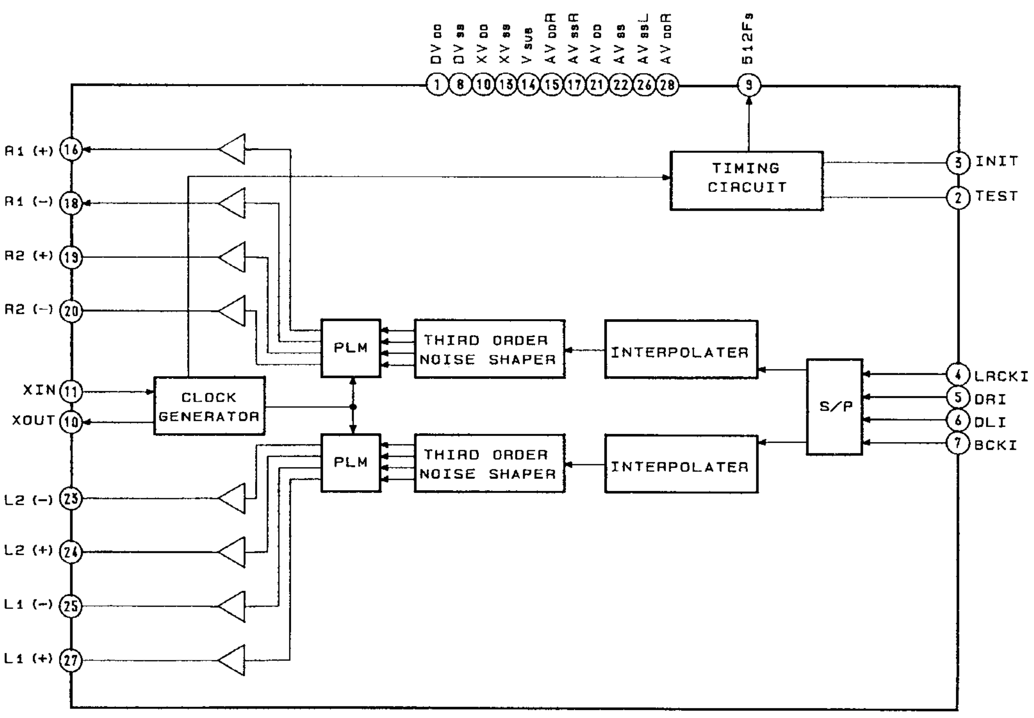
IC301 CXD2500AQ


MIRR 80
CLKO 79
XLTO 78
DATO 77
CNIN 76
SEIN 75
CLOK 74
VDD 73
XLAT 72
DATA 71
XRST 70
SENS 69
MUTE 68
SQCK 67
SQSO 66
EXCK 65
FOK 1
FSW 2
MON 3
MDP 4
MDS 5
LOCK 6
NC 7
VCOO 8
VCOI 9
TEST 10
PDO 11
VSS 12
NC 13
NC 14
NC 15
VPCO 16
VCKI 17
FILO 18
FILI 19
PCO 20
AVSS 21
CLTV 22
AVDD 23
RF 24
AUTO SEQUENCER
CLV
EFM DEMODU-LATOR
DIGITAL OUT
VARIABLE PITCH CONTROL
CLOCK GENERATOR
PLL
DATA BUS
VCO
ERROR CORRECTOR
RAM
ADDRESS GENERATOR
ASYMMETRY CORRECTOR
D/A DATA PROCESSOR
64 SBSO
63 SCOR
62 WFCK
61 EMPH
60 DOUT
59 MD2
58 C16M
57 C4M
56 FSTT
55 XTSL
54 XTAO
53 XTAI
52 VSS
51 APTL
50 APTR
49 DA01
48 DA02
47 DA03
46 DA04
45 DA05
44 DA06
43 DA07
42 DA08
41 DA09
TEST2 25
TEST3 26
ASYO 27
TEST4 28
NC 29
PSSL 30
WDCK 31
LRCK 32
VDD 33
DA16 34
DA15 35
DA14 36
DA13 37
DA12 38
DA11 39
DA10 40

IC302 CXD2560M


FLGL 23
FLGR 24
SYSM 2
MCLK 17
128FS 13
INVI 14
INVO 15
INVO2 16
CTL 6
BCKI 8
DATAI 9
LRCKI 10
INPUT
TIMING
MODE
3 ATT
4 SHIFT
5 LATCH
DATA RAM
COEF ROM
ATT
MPY
ACC
N.S.
O.F.L.
OFFSET
OUTPUT
19 BCKO
20 DL
21 DR
22 LRCKO

IC303 CXD2561AM


DVDD 1
DVSS 8
XVDD 10
XVSS 13
VSUB 14
AVDDR 15
AVSSR 17
AVDD 21
AVSS 22
AVSSL 26
AVDDL 28
512Fs 9
R1 (+) 16
R1 (-) 18
R2 (+) 19
R2 (-) 20
XIN 11
XOUT 10
L2 (-) 23
L2 (+) 24
L1 (-) 25
L1 (+) 27
TIMING CIRCUIT
PLM
THIRD ORDER NOISE SHAPER
INTERPOLATER
CLOCK GENERATOR
PLM
THIRD ORDER NOISE SHAPER
INTERPOLATER
S/P
3 INIT
2 TEST
4 LRCKI
5 DRI
6 DLI
7 BCKI

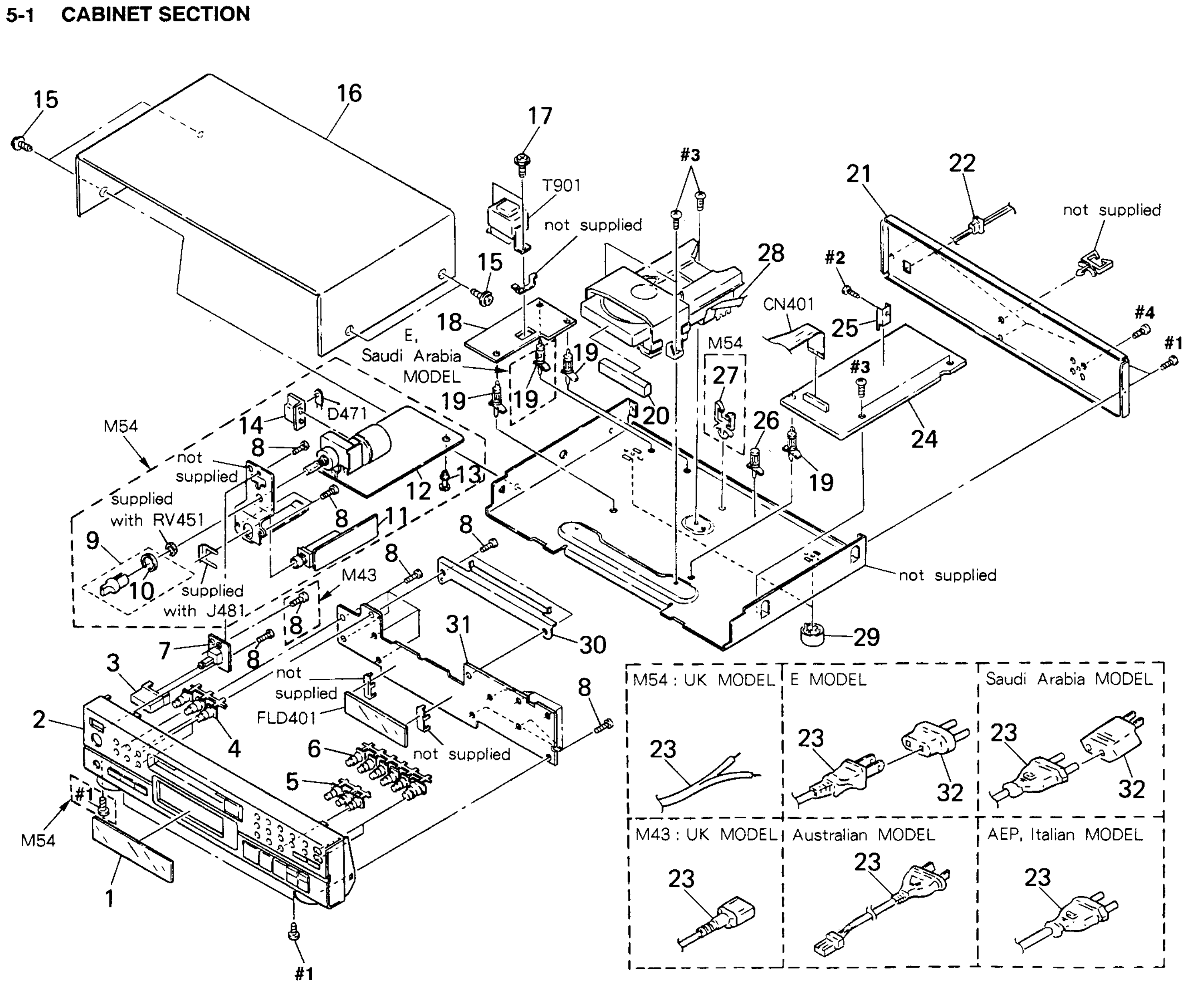
SECTION 5
EXPLODED VIEWS

NOTE:
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Color indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE) .... (RED)
  ↑ Parts color ↑ Cabinet's color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

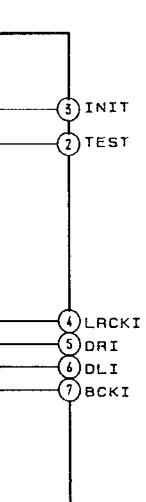
When indicating parts by reference number, please include the board.

5-1 CABINET SECTION



15
16
17
T901
not supplied
#3
21
22
not supplied
15
28
#2
18
E, Saudi Arabia MODEL
CN401
25
#4
#1
M54
19
19
19
20
27
#3
26
24
M54
14
D471
8
not supplied
12
13
19
supplied with RV451
9
10
supplied with J481
11
8
8
M43
8
8
not supplied
29
3
7
8
31
30
not supplied
FLD401
8
2
4
6
not supplied
5
#1
M54
1
#1
M54 : UK MODEL
E MODEL
Saudi Arabia MODEL
23
23
32
23
32
M43 : UK MODEL
Australian MODEL
AEP, Italian MODEL
23
23
23

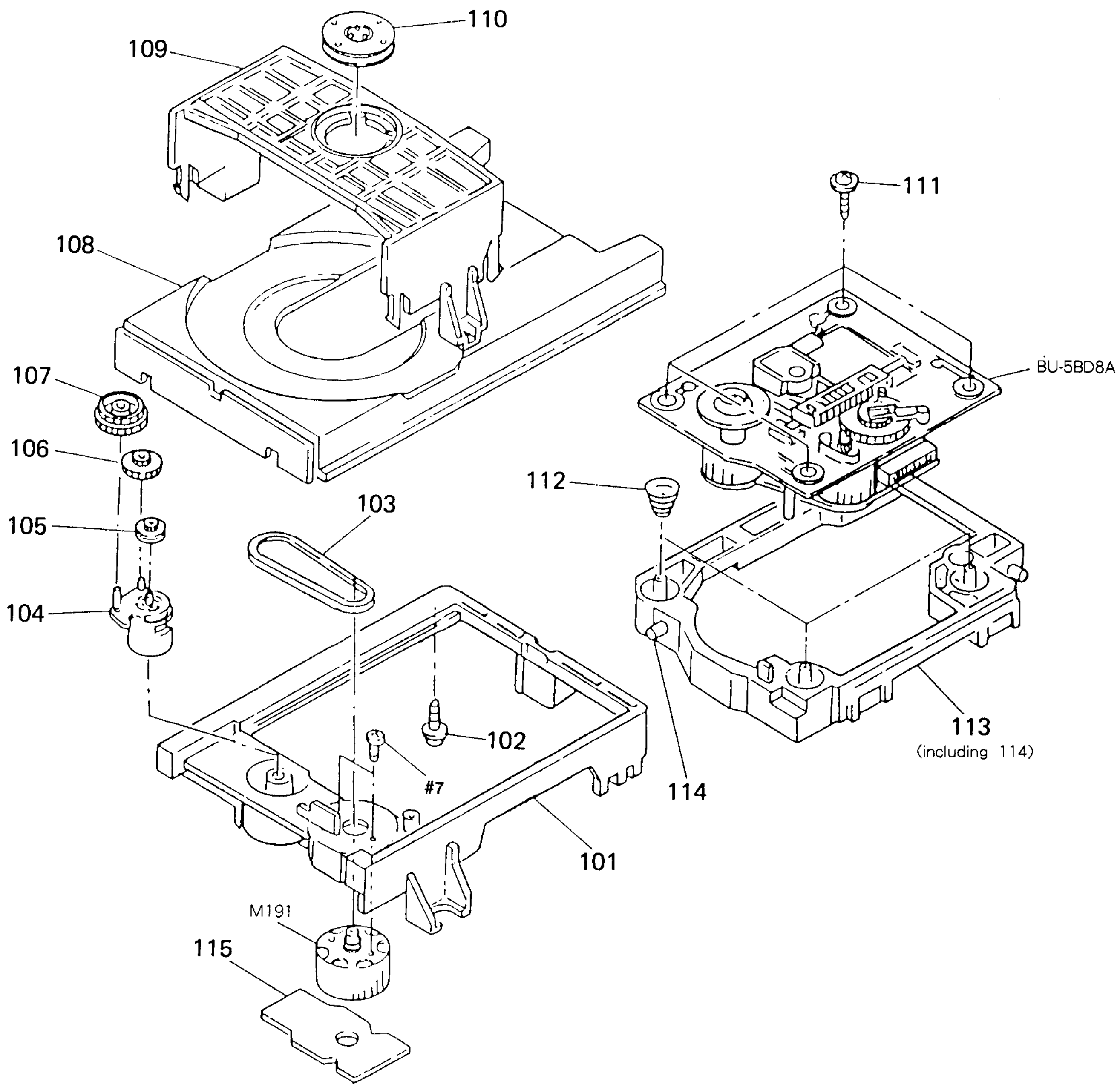
Ref. No.	Part No.	Description
1	4-950-182-01	PLATE, INDICATION (M5
1	4-950-182-11	PLATE, INDICATION (M4
2	X-4942-345-1	PANEL ASSY, FRONT (BL
2	X-4942-346-1	PANEL ASSY, FRONT (GRAY) (EXCEPT
2	X-4942-347-1	PANEL ASSY, FRONT (BL
3	4-950-176-01	BUTTON (POWER) (GRAY) (EXCEPT M5
3	4-950-176-11	BUTTON (POWER) (BLACK)
4	4-950-177-01	BUTTON (G) (GRAY) (EXCEPT M54,
4	4-950-177-11	BUTTON (G) (BLACK) (M54,
5	4-950-179-01	BUTTON (MC/B) (GRAY) (EXCEPT M54,
5	4-950-179-11	BUTTON (MC/B) (BLACK) (
6	4-950-178-01	BUTTON (MC/A) (GRAY) (EXCEPT M54,
6	4-950-178-11	BUTTON (MC/A) (BLACK) (
* 7	1-642-887-21	P.SW BOARD
8	4-928-635-01	SCREW, +BV (2.6X8) TA
9	A-4604-901-A	KNOB (HP) ASSY (M54)
10	4-948-469-01	SPRING, RING (M54)
11	1-642-886-21	HP BOARD (M54)
* 12	A-4649-107-A	MOTOR VOL BOARD, COMP
* 13	3-676-567-00	SPACER (M54:E, AEP)
* 14	4-922-980-01	HOLDER (LED) (M54)
15	3-363-099-01	SCREW (CASE +3X8 TP2)
15	3-704-366-01	SCREW (CASE) (M3X8) (MA
16	4-919-376-31	CASE (BLACK) (M54/M43:
16	4-919-376-81	CASE (GRAY) (EXCEPT M5
17	4-886-821-11	SCREW, S TIGHT, +PTTW
* 18	1-642-883-21	POWER BOARD
* 19	4-924-098-31	HOLDER, PC BOARD
20	4-950-174-01	PANEL, LOADING (GRAY) (EXCEPT M5
20	4-950-174-11	PANEL, LOADING (BLACK
20	4-950-174-21	PANEL, LOADING (BLACK



③ INIT
② TEST
④ LRCKI
⑤ DRI
⑥ DLI
⑦ BCKI

Ref. No.	Part No.	Description	Remark
* 21	4-941-467-11	PANEL (ALSACE), BACK (MADE IN FRANCE M43:AEP, Italian, UK)	
21	4-941-552-21	PANEL (ALSACE), BACK (MADE IN JAPAN M54:AEP, UK)	
* 21	4-949-433-01	PANEL, BACK (MADE IN JAPAN M54:AEP)	
* 21	4-949-433-22	PANEL, BACK (M54:E)	
* 21	4-949-433-41	PANEL, BACK (MADE IN FRANCE M43:AEP)	
* 21	4-949-433-51	PANEL, BACK (M43:E, Saudi Arabia)	
* 21	4-949-433-61	PANEL, BACK (M43:Australian)	
* 22	3-703-244-00	BUSHING (2104), CORD (EXCEPT E)	
* 22	3-703-571-11	BUSHING (S) (4516), CORD (E)	
⚠23	1-558-946-21	CORD, POWER (M54:UK)	
⚠23	1-574-358-31	CORD, POWER (WITH CONNECTOR) (Australian)	
⚠23	1-575-651-21	CORD, POWER (AEP, Italian, Saudi Arabia)	
⚠23	1-575-653-21	CORD, POWER (E)	
⚠23	1-590-379-11	CORD, POWER (M43:UK)	
* 24	A-4649-105-A	MAIN BOARD, COMPLETE (M54)	
* 24	A-4649-111-A	MAIN BOARD, COMPLETE (M43)	
* 25	4-941-237-01	HEAT SINK (M54:UK)	
25	4-902-345-01	HEAT SINK (EXCEPT M54:UK)	
* 26	3-349-025-41	HOLDER, PC BOARD	
* 27	4-314-320-00	HOLDER, WIRE (M54)	
28	1-575-160-11	WIRE, FLAT TYPE (22 CORE)	
29	4-931-169-01	FOOT	
30	4-950-180-01	REINFORCEMENT (MD)	
* 31	A-4649-104-A	DISP BOARD, COMPLETE (M54)	
* 31	A-4649-110-A	DISP BOARD, COMPLETE (M43)	
⚠32	1-569-007-11	ADAPTER, CONVERSION 2P (E)	
⚠32	1-569-008-11	ADAPTER, CONVERSION 2P (Saudi Arabia)	
CN401	1-535-987-11	JAMPER, FILM (WITH TERMINAL)	
D471	8-719-970-49	DIODE BR4361F (M54)	
⚠T901	1-449-922-11	TRANSFORMER, POWER (EXCEPT E, Saudi Arabia)	
⚠T901	1-449-923-11	TRANSFORMER, POWER (E, Saudi Arabia)	

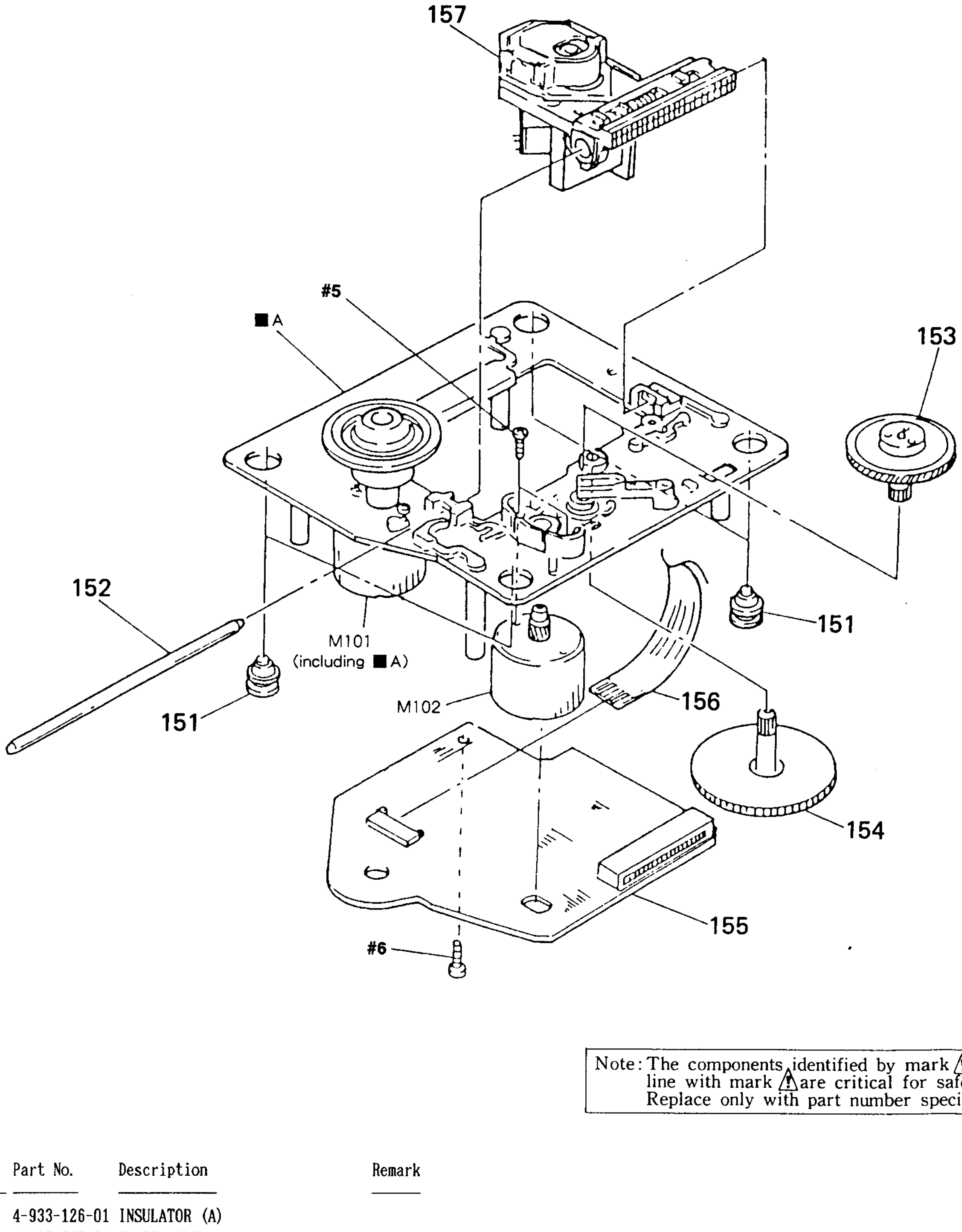
5-2 MD SECTION (CDM14-5BD8A)



Ref. No.	Part No.	Description	Remark
101	4-933-111-01	CHASSIS (MD) (MADE IN JAPAN)	
101	4-933-111-11	CHASSIS (MD) (MADE IN FRANCE)	
* 102	4-917-583-21	BRACKET, YOKE	
103	4-927-649-01	BELT	
104	4-933-109-01	CAM	
105	4-927-651-01	PULLEY (S)	
106	4-927-628-01	GEAR (C)	
107	4-933-107-01	GEAR (PL)	
108	4-948-894-01	TABLE (ALS), DISK (MADE IN FRANCE)	
108	4-949-336-01	TABLE, DISK (MADE IN JAPAN)	

Ref. No.	Part No.	Description	Remark
109	4-933-110-01	HOLDER (MG)	
* 110	1-452-538-11	MAGNET	
111	4-933-134-01	SCREW (+PTPWH M2.6X6)	
112	4-917-541-01	SPRING (B) (MADE IN FRANCE)	
112	4-948-503-01	SPRING (BU), COMPRESSION (MADE IN JAPAN)	
113	4-933-129-01	HOLDER (BU)	
114	4-933-108-01	SHAFT (CAM)	
* 115	1-632-202-11	LOADING BOARD	
M191	A-4604-363-A	MOTOR (L) ASSY	

5-3 OPTICAL PICK-UP BLOCK (BU-55BD8A)


157
#5
■A
153
152
151
M101
(including ■A)
M102
156
151
154
155
#6

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
151	4-933-126-01	INSULATOR (A)	
152	4-917-565-01	SHAFT, SLED	
153	4-917-567-01	GEAR (M)	
154	4-917-564-01	GEAR (P), FLATNESS	
* 155	A-4617-977-A	BD BOARD, COMPLETE	
156	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
⚠157	8-848-144-11	DEVICE, OPTICAL KSS-240A	
M101	X-4917-523-3	BASE (OUTSERT) ASSY	
M102	X-4917-504-1	MOTOR ASSY	

BD

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal oxide-film resistor
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA.... : μA...., uPA.... : μPA....
  uPB.... : μPB...., uPC.... : μPC....
  uPD.... : μPD....
- CAPACITORS
  uF : μF
- COILS
  uH : μH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	A-4617-977-A	BD BOARD, COMPLETE			
		******************			
		< CAPACITOR >			
C101	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C102	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C103	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C104	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C105	1-135-155-21	TANTALUM CHIP	4.7uF	10%	16V
C106	1-164-346-11	CERAMIC CHIP	1uF		16V
C107	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C108	1-164-346-11	CERAMIC CHIP	1uF		16V
C112	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C151	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C152	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C153	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C154	1-164-336-11	CERAMIC CHIP	0.33uF		25V
C155	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C156	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C157	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C158	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C159	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C160	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C181	1-163-038-00	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
CN101	1-568-796-11	SOCKET, CONNECTOR 22P			
CN102	1-568-795-11	SOCKET, CONNECTOR 12P			
CN103	1-564-721-11	PIN, CONNECTOR (SMALL TYPE) 5P			
		< IC >			
IC101	8-752-344-48	IC CXD2501Q			
IC102	8-759-071-80	IC BA6297AFP			
IC103	8-759-040-83	IC BA6287F			

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R101	1-216-077-00	METAL CHIP	15K	5%	1/10W
R102	1-216-097-00	METAL CHIP	100K	5%	1/10W
R103	1-216-077-00	METAL CHIP	15K	5%	1/10W
R104	1-216-085-00	METAL CHIP	33K	5%	1/10W
R105	1-216-097-00	METAL CHIP	100K	5%	1/10W
R112	1-216-049-00	METAL CHIP	1K	5%	1/10W
R113	1-216-077-00	METAL CHIP	15K	5%	1/10W
R114	1-216-077-00	METAL CHIP	15K	5%	1/10W
R117	1-216-077-00	METAL CHIP	15K	5%	1/10W
R118	1-216-077-00	METAL CHIP	15K	5%	1/10W
R121	1-216-077-00	METAL CHIP	15K	5%	1/10W
R122	1-216-077-00	METAL CHIP	15K	5%	1/10W
R151	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R152	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R153	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R154	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R155	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R156	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R157	1-216-085-00	METAL CHIP	33K	5%	1/10W
R158	1-216-076-00	METAL CHIP	13K	5%	1/10W
R159	1-216-085-00	METAL CHIP	33K	5%	1/10W
R160	1-216-081-00	METAL CHIP	22K	5%	1/10W
R161	1-216-093-00	METAL CHIP	68K	5%	1/10W
R162	1-216-085-00	METAL CHIP	33K	5%	1/10W
R163	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R181	1-216-021-00	METAL CHIP	68	5%	1/10W
R182	1-216-021-00	METAL CHIP	68	5%	1/10W

< SWITCH >

Ref. No.	Part No.	Description	Remark
S101	1-572-085-11	SWITCH, LEAF (LIMIT SW)	

****

Ref. No.	Part No.	Description	Remark
*	A-4649-104-A	DISP BOARD, COMPLETE (M54)	
*	A-4649-110-A	DISP BOARD, COMPLETE (M43)	

****

< CAPACITOR >

Ref. No.	Part No.	Description			Remark
C402	1-164-159-11	CERAMIC	0.1uF		50V
C403	1-126-154-11	ELECT	47uF	20%	6.3V
C404	1-161-494-00	CERAMIC	0.022uF		25V
C405	1-164-159-11	CERAMIC	0.1uF		50V

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
CN401	1-535-987-11	JAMPER, FILM (WITH TERMINAL)	

< DIODE >

Ref. No.	Part No.	Description		Remark
D401	8-719-987-63	DIODE	1N4148M	
D402	8-719-987-63	DIODE	1N4148M	
D403	8-719-987-63	DIODE	1N4148M	
D404	8-719-987-63	DIODE	1N4148M	
D405	8-719-987-63	DIODE	1N4148M	
D406	8-719-987-63	DIODE	1N4148M	
D407	8-719-987-63	DIODE	1N4148M	
D408	8-719-987-63	DIODE	1N4148M	
D409	8-719-987-63	DIODE	1N4148M	
D410	8-719-987-63	DIODE	1N4148M	
D411	8-719-987-63	DIODE	1N4148M	
D412	8-719-121-24	DIODE	RD9.1ESL	

< FLUORESCENT INDICATOR >

Ref. No.	Part No.	Description	Remark
FLD401	1-519-681-11	INDICATOR TUBE, FLUORESCENT	

< IC >

Ref. No.	Part No.	Description		Remark
IC401	8-759-061-40	IC	uPD75216ACW-C73 (M54)	
IC401	8-759-070-44	IC	uPD75216ACW-C93 (M43)	
IC402	8-741-100-48	IC	SBX1610-59 (M54)	

< RESISTOR >

Ref. No.	Part No.	Description				Remark
R401	1-249-435-11	CARBON	33K	5%	1/4W	
R402	1-249-435-11	CARBON	33K	5%	1/4W	
R403	1-249-435-11	CARBON	33K	5%	1/4W	
R404	1-249-435-11	CARBON	33K	5%	1/4W	
R405	1-249-435-11	CARBON	33K	5%	1/4W	
R406	1-249-425-11	CARBON	4.7K	5%	1/4W	
R407	1-249-425-11	CARBON	4.7K	5%	1/4W	
R408	1-249-439-11	CARBON	68K	5%	1/4W	

< SWITCH >

Ref. No.	Part No.	Description	Remark
S401	1-554-303-21	SWITCH, TACTILE (CONTINUE)	
S402	1-554-303-21	SWITCH, TACTILE (REPEAT)	
S403	1-554-303-21	SWITCH, TACTILE (	
S404	1-554-303-21	SWITCH, TACTILE (	
S405	1-554-303-21	SWITCH, TACTILE (SHUFFLE)	
S406	1-554-303-21	SWITCH, TACTILE (FADER)	
S407	1-554-303-21	SWITCH, TACTILE (	
S408	1-554-303-21	SWITCH, TACTILE (	
S409	1-554-303-21	SWITCH, TACTILE (PROGRAM)	
S410	1-554-303-21	SWITCH, TACTILE (TIME)	
S411	1-554-303-21	SWITCH, TACTILE (	
S412	1-554-303-21	SWITCH, TACTILE (OPEN/CLOSE)	
S413	1-554-303-21	SWITCH, TACTILE (	
S414	1-554-303-21	SWITCH, TACTILE (	
S415	1-554-303-21	SWITCH, TACTILE (EDIT)	
S416	1-554-303-21	SWITCH, TACTILE (TIME SET)	
S417	1-554-303-21	SWITCH, TACTILE (PEAK SERCH)	
S418	1-554-303-21	SWITCH, TACTILE (MUSIC SCAN)	
S419	1-554-303-21	SWITCH, TACTILE (1)	
S420	1-554-303-21	SWITCH, TACTILE (6)	
S421	1-554-303-21	SWITCH, TACTILE (11)	
S423	1-554-303-21	SWITCH, TACTILE (2)	
S424	1-554-303-21	SWITCH, TACTILE (7)	
S425	1-554-303-21	SWITCH, TACTILE (12)	
S427	1-554-303-21	SWITCH, TACTILE (3)	
S428	1-554-303-21	SWITCH, TACTILE (8)	
S431	1-554-303-21	SWITCH, TACTILE (4)	
S432	1-554-303-21	SWITCH, TACTILE (9)	
S435	1-554-303-21	SWITCH, TACTILE (5)	
S436	1-554-303-21	SWITCH, TACTILE (10)	
S439	1-554-303-21	SWITCH, TACTILE (>12)	
S440	1-554-303-21	SWITCH, TACTILE (CHECK)	
S441	1-554-303-21	SWITCH, TACTILE (CLEAR)	
S442	1-554-303-21	SWITCH, TACTILE (A.SPACE/A.CUE)	

< VIBRATOR >

Ref. No.	Part No.	Description	Remark
X401	1-577-358-21	VIBRATOR, CERAMIC (4MHz)	

****

Ref. No.	Part No.	Description	Remark
	1-642-886-21	HP BOARD (M54)	

****

< CAPACITOR >

Ref. No.	Part No.	Description			Remark
C481	1-162-294-31	CERAMIC	0.001uF	10%	50V(M54)
C482	1-162-294-31	CERAMIC	0.001uF	10%	50V(M54)
C483	1-164-159-11	CERAMIC	0.1uF		50V(M54)

HP LOADING MAIN

Ref. No.	Part No.	Description			Remark
		< JACK >			
J481	1-568-519-41	JACK, LARGE TYPE (PHONES)(M54)			
		< RESISTOR >			
R481	1-249-402-11	CARBON	56	5%	1/4W(M54)
R482	1-249-402-11	CARBON	56	5%	1/4W(M54)

****

*	1-632-202-11	LOADING BOARD *************	
		< CONNECTOR >	
* CN301	1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P	
		< SWITCH >	
S271	1-572-086-11	SWITCH, LEAF (OUT SW)	
S272	1-572-086-11	SWITCH, LEAF (IN SW)	

****

*	A-4649-105-A	MAIN BOARD, COMPLETE (M54)
*	A-4649-111-A	MAIN BOARD, COMPLETE (M43) **************************
	4-902-345-01	HEAT SINK (EXCEPT M54:UK)
*	4-941-237-01	HEAT SINK (M54:UK)

< CAPACITOR >

Ref. No.	Part No.	Description			Remark
C205	1-126-163-11	ELECT	4.7uF	20%	50V
C206	1-126-059-11	ELECT	10uF	20%	50V
C207	1-126-059-11	ELECT	10uF	20%	50V
C208	1-124-997-11	ELECT	470uF	20%	10V
C209	1-124-997-11	ELECT	470uF	20%	10V
C210	1-126-024-11	ELECT	220uF	20%	16V
C211	1-124-997-11	ELECT	470uF	20%	10V
C212	1-164-159-11	CERAMIC	0.1uF		50V
C213	1-126-012-11	ELECT	470uF	20%	16V
C214	1-126-012-11	ELECT	470uF	20%	16V
C301	1-126-022-11	ELECT	47uF	20%	16V
C302	1-126-301-11	ELECT	1uF	20%	50V
C305	1-126-022-11	ELECT	47uF	20%	16V
C306	1-164-159-11	CERAMIC	0.1uF		50V
C307	1-164-159-11	CERAMIC	0.1uF		50V
C308	1-164-159-11	CERAMIC	0.1uF		50V
C311	1-130-491-00	MYLAR	0.047uF	5%	50V
C312	1-161-374-11	CERAMIC	0.0015uF	20%	50V
C313	1-161-494-00	CERAMIC	0.022uF		25V
C314	1-162-306-11	CERAMIC	0.01uF	20%	16V
C315	1-126-300-11	ELECT	0.47uF	20%	50V
C317	1-164-159-11	CERAMIC	0.1uF		50V
C318	1-164-159-11	CERAMIC	0.1uF		50V(M43)
C319	1-162-282-31	CERAMIC	100PF	10%	50V
C320	1-130-483-00	MYLAR	0.01uF	5%	50V
C321	1-162-208-31	CERAMIC	24PF	5%	50V
C322	1-124-994-11	ELECT	100uF	20%	10V
C324	1-164-159-11	CERAMIC	0.1uF		50V
C325	1-162-205-31	CERAMIC	18PF	5%	50V
C326	1-162-205-31	CERAMIC	18PF	5%	50V
C327	1-164-159-11	CERAMIC	0.1uF		50V
C328	1-126-024-11	ELECT	220uF	20%	16V
C329	1-126-024-11	ELECT	220uF	20%	16V
C330	1-162-294-31	CERAMIC	0.001uF	10%	50V
C331	1-164-159-11	CERAMIC	0.1uF		50V
C332	1-164-159-11	CERAMIC	0.1uF		50V
C333	1-164-159-11	CERAMIC	0.1uF		50V
C335	1-164-159-11	CERAMIC	0.1uF		50V
C351	1-126-022-11	ELECT	47uF	20%	16V
C352	1-164-159-11	CERAMIC	0.1uF		50V
C353	1-126-022-11	ELECT	47uF	20%	16V
C354	1-164-159-11	CERAMIC	0.1uF		50V
C355	1-126-022-11	ELECT	47uF	20%	16V
C356	1-164-159-11	CERAMIC	0.1uF		50V
C357	1-124-994-11	ELECT	100uF	20%	10V (M43)
C357	1-124-997-11	ELECT	470uF	20%	10V (M54)
C358	1-124-994-11	ELECT	100uF	20%	10V (M43)
C358	1-124-997-11	ELECT	470uF	20%	10V (M54)
C361	1-162-280-31	CERAMIC	82PF	10%	50V
C362	1-162-280-31	CERAMIC	82PF	10%	50V
C363	1-162-213-31	CERAMIC	39PF	5%	50V
C364	1-162-213-31	CERAMIC	39PF	5%	50V
C365	1-162-213-31	CERAMIC	39PF	5%	50V
C366	1-162-213-31	CERAMIC	39PF	5%	50V
C367	1-161-494-00	CERAMIC	0.022uF		25V
C368	1-161-494-00	CERAMIC	0.022uF		25V
C371	1-106-359-00	MYLAR	4700PF	5%	200V
C372	1-106-359-00	MYLAR	4700PF	5%	200V
C373	1-130-472-00	MYLAR	0.0012uF	5%	50V
C374	1-130-472-00	MYLAR	0.0012uF	5%	50V
C377	1-126-022-11	ELECT	47uF	20%	16V
C378	1-126-022-11	ELECT	47uF	20%	16V
C379	1-106-347-00	MYLAR	1500PF	5%	200V
C380	1-106-347-00	MYLAR	1500PF	5%	200V
C392	1-164-159-11	CERAMIC	0.1uF		50V(M43)
C393	1-164-159-11	CERAMIC	0.1uF		50V(M43)
C394	1-124-994-11	ELECT	100uF	20%	10V(M43)

Ref. No.	Part No.	Description	Remark
		< CONNECTOR >	
* CN204	1-564-511-11	PLUG, CONNECTOR 8P	
* CN301	1-568-843-11	SOCKET, CONNECTOR 28P	
* CN302	1-568-822-11	SOCKET, CONNECTOR 22P	
* CN381	1-564-708-11	PIN, CONNECTOR (SMALL TYPE) 6P	(M54)
* CN382	1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P	(M54)
* CN391	1-565-561-11	PIN, CONNECTOR 3P (AU BUS)(M43)	
		< DIODE >	
D207	8-719-114-49	DIODE RD7.5JSB2	
D208	8-719-109-89	DIODE RD5.6ESB2	
D209	8-719-987-63	DIODE 1N4148M	
D328	8-719-987-63	DIODE 1N4148M	
D344	8-719-987-63	DIODE 1N4148M	
D391	8-719-987-63	DIODE 1N4148M (M43)	
		< IC >	
IC202	8-759-630-21	IC M5290P-16	
IC203	8-759-945-58	IC RC4558P (M54)	
IC301	8-752-337-26	IC CXD2500AQ	
IC302	8-752-342-65	IC CXD2560M	
IC303	8-752-349-01	IC CXD2561AM	
IC306	8-759-503-91	IC TL082ACP (M54)	
IC306	8-759-945-58	IC RC4558P (M43)	
IC307	8-759-945-58	IC RC4558P	
		< JACK >	
J381	1-569-442-11	JACK, PIN 2P (LINE OUT)(M43)	
* J381	1-569-443-11	JACK, PIN 4P (LINE OUT)(M54)	
		< COIL >	
L301	1-408-403-00	INDUCTOR 3.3uH	
L321	1-408-403-00	INDUCTOR 3.3uH	
		< TRANSISTOR >	
Q202	8-729-140-96	TRANSISTOR 2SD774-34	
Q203	8-729-141-83	TRANSISTOR 2SB1094-LK	
Q204	8-729-900-65	TRANSISTOR DTA144ES	
Q205	8-729-900-89	TRANSISTOR DTC144ES	
Q206	8-729-900-89	TRANSISTOR DTC144ES	
Q207	8-729-230-45	TRANSISTOR 2SC2458-YGR	
Q208	8-729-141-83	TRANSISTOR 2SB1094-LK	
Q209	8-729-281-52	TRANSISTOR 2SC1815-Y (M54)	
Q341	8-729-900-65	TRANSISTOR DTA144ES	
Q342	8-729-900-65	TRANSISTOR DTA144ES	
Q343	8-729-900-65	TRANSISTOR DTA144ES	
Q344	8-729-900-89	TRANSISTOR DTC144ES	
Q371	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q372	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q373	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q374	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q375	8-729-231-55	TRANSISTOR 2SC2878-AB	
Q376	8-729-231-55	TRANSISTOR 2SC2878-AB	
Q392	8-729-900-80	TRANSISTOR DTC114ES (M43)	
		< RESISTOR >	
R204	1-249-425-11	CARBON 4.7K 5% 1/4W	
R205	1-249-425-11	CARBON 4.7K 5% 1/4W	
R206	1-249-417-11	CARBON 1K 5% 1/4W	
R207	1-249-417-11	CARBON 1K 5% 1/4W	
R208	1-249-423-11	CARBON 3.3K 5% 1/4W	
R209	1-249-413-11	CARBON 470 5% 1/4W	
R210	1-249-429-11	CARBON 10K 5% 1/4W	(M54)
R211	1-249-410-11	CARBON 270 5% 1/4W	(M54)
R214	1-249-417-11	CARBON 1K 5% 1/4W	
R301	1-249-417-11	CARBON 1K 5% 1/4W	
R302	1-249-417-11	CARBON 1K 5% 1/4W	
R303	1-249-421-11	CARBON 2.2K 5% 1/4W	
R304	1-249-417-11	CARBON 1K 5% 1/4W	
R306	1-249-413-11	CARBON 470 5% 1/4W	
R309	1-249-405-11	CARBON 100 5% 1/4W	
R311	1-249-423-11	CARBON 3.3K 5% 1/4W	
R312	1-249-429-11	CARBON 10K 5% 1/4W	
R313	1-249-423-11	CARBON 3.3K 5% 1/4W	
R314	1-249-429-11	CARBON 10K 5% 1/4W	
R315	1-249-417-11	CARBON 1K 5% 1/4W	
R316	1-249-417-11	CARBON 1K 5% 1/4W	
R317	1-249-419-11	CARBON 1.5K 5% 1/4W	
R318	1-249-441-11	CARBON 100K 5% 1/4W	
R319	1-247-903-00	CARBON 1M 5% 1/4W	
R320	1-249-417-11	CARBON 1K 5% 1/4W	
R321	1-249-417-11	CARBON 1K 5% 1/4W	
R322	1-249-417-11	CARBON 1K 5% 1/4W	
R323	1-249-417-11	CARBON 1K 5% 1/4W	
R324	1-249-417-11	CARBON 1K 5% 1/4W	
R325	1-249-417-11	CARBON 1K 5% 1/4W	
R326	1-249-417-11	CARBON 1K 5% 1/4W	
R327	1-247-903-00	CARBON 1M 5% 1/4W	
R328	1-247-895-00	CARBON 470K 5% 1/4W	
R330	1-249-417-11	CARBON 1K 5% 1/4W	(M43)
R343	1-249-441-11	CARBON 100K 5% 1/4W	
R344	1-249-441-11	CARBON 100K 5% 1/4W	
R345	1-249-425-11	CARBON 4.7K 5% 1/4W	
R346	1-249-425-11	CARBON 4.7K 5% 1/4W	
R347	1-249-441-11	CARBON 100K 5% 1/4W	
R351	1-249-436-11	CARBON 39K 5% 1/4W	

MAIN MOTOR VOL

Ref. No.	Part No.	Description			Remark
R352	1-249-436-11	CARBON	39K	5%	1/4W
R353	1-249-436-11	CARBON	39K	5%	1/4W
R354	1-249-436-11	CARBON	39K	5%	1/4W
R355	1-249-436-11	CARBON	39K	5%	1/4W
R356	1-249-436-11	CARBON	39K	5%	1/4W
R357	1-249-436-11	CARBON	39K	5%	1/4W
R358	1-249-436-11	CARBON	39K	5%	1/4W
R361	1-249-431-11	CARBON	15K	5%	1/4W (M54)
R361	1-249-432-11	CARBON	18K	5%	1/4W (M43)
R362	1-249-431-11	CARBON	15K	5%	1/4W (M54)
R362	1-249-432-11	CARBON	18K	5%	1/4W (M43)
R363	1-249-431-11	CARBON	15K	5%	1/4W (M54)
R363	1-249-432-11	CARBON	18K	5%	1/4W (M43)
R364	1-249-431-11	CARBON	15K	5%	1/4W (M54)
R364	1-249-432-11	CARBON	18K	5%	1/4W (M43)
R365	1-249-438-11	CARBON	56K	5%	1/4W
R366	1-249-438-11	CARBON	56K	5%	1/4W
R367	1-249-438-11	CARBON	56K	5%	1/4W
R368	1-249-438-11	CARBON	56K	5%	1/4W
R369	1-249-419-11	CARBON	1.5K	5%	1/4W
R370	1-249-419-11	CARBON	1.5K	5%	1/4W
R371	1-249-419-11	CARBON	1.5K	5%	1/4W
R372	1-249-419-11	CARBON	1.5K	5%	1/4W
R373	1-247-887-00	CARBON	220K	5%	1/4W
R374	1-247-887-00	CARBON	220K	5%	1/4W
R375	1-249-409-11	CARBON	220	5%	1/4W
R376	1-249-409-11	CARBON	220	5%	1/4W
R377	1-249-409-11	CARBON	220	5%	1/4W
R378	1-249-409-11	CARBON	220	5%	1/4W
R379	1-249-425-11	CARBON	4.7K	5%	1/4W
R380	1-249-425-11	CARBON	4.7K	5%	1/4W
R381	1-249-425-11	CARBON	4.7K	5%	1/4W
R382	1-249-425-11	CARBON	4.7K	5%	1/4W
R383	1-249-413-11	CARBON	470	5%	1/4W
R384	1-249-413-11	CARBON	470	5%	1/4W
R385	1-249-393-11	CARBON	10	5%	1/4W
R386	1-249-393-11	CARBON	10	5%	1/4W
R388	1-249-393-11	CARBON	10	5%	1/4W (M43)
R389	1-249-413-11	CARBON	470	5%	1/4W (M54)
R390	1-249-413-11	CARBON	470	5%	1/4W (M54)
R395	1-249-429-11	CARBON	10K	5%	1/4W (M43)
R396	1-247-848-11	CARBON	5.1K	5%	1/4W
R397	1-247-848-11	CARBON	5.1K	5%	1/4W
R398	1-247-848-11	CARBON	5.1K	5%	1/4W
R399	1-247-848-11	CARBON	5.1K	5%	1/4W

Ref. No.	Part No.	Description	Remark
		< VIBRATOR >	
X327	1-579-314-11	VIBRATOR, CRYSTAL (22.5792MHz)	
**			
*	A-4649-107-A	MOTOR VOL BOARD, COMPLETE (M54) ******************************	
*	4-922-980-01	HOLDER (LED) (M54)	
		< CAPACITOR >	
C451	1-124-443-00	ELECT 100uF 20%	10V(M54)
C452	1-124-443-00	ELECT 100uF 20%	10V(M54)
C471	1-124-443-00	ELECT 100uF 20%	10V(M54)
C472	1-124-768-11	ELECT 4.7uF 20%	50V(M54)
C473	1-164-159-11	CERAMIC 0.1uF	50V(M54)
		< CONNECTOR >	
* CN451	1-564-708-11	PIN, CONNECTOR (SMALL TYPE) 6P (M54)	
* CN453	1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P (M54)	
CN472	1-506-468-11	CONNECTOR 3P, MALE (M54)	
		< DIODE >	
D471	8-719-970-49	DIODE BR4361F LINE OUT PHONE LEVEL)(M54)	
		< IC >	
IC451	8-759-981-89	IC RC4556S (M54)	
IC471	8-759-962-08	IC BA6208 (M54)	
		< RESISTOR >	
R451	1-249-435-11	CARBON 33K 5%	1/4W (M54)
R452	1-249-435-11	CARBON 33K 5%	1/4W (M54)
R453	1-249-432-11	CARBON 18K 5%	1/4W (M54)
R454	1-249-432-11	CARBON 18K 5%	1/4W (M54)
R455	1-249-422-11	CARBON 2.7K 5%	1/4W (M54)
R456	1-249-422-11	CARBON 2.7K 5%	1/4W (M54)
R457	1-249-429-11	CARBON 10K 5%	1/4W (M54)
R458	1-249-429-11	CARBON 10K 5%	1/4W (M54)
R461	1-249-399-11	CARBON 33 5%	1/4W (M54)
R462	1-249-399-11	CARBON 33 5%	1/4W (M54)
R471	1-249-411-11	CARBON 330 5%	1/4W (M54)
R472	1-249-417-11	CARBON 1K 5%	1/4W (M54)
R473	1-249-417-11	CARBON 1K 5%	1/4W (M54)
		< VARIABLE RESISTOR >	
RV451	1-241-810-11	RES, VAR, CARBON 10K/10K (LINE OUT PHONE LEVEL)(M54)	

Ref. No.	Part No.	Description	Remark
*	1-642-887-21	P.SW BOARD **********	
		< SWITCH >	
S491	1-554-118-00	SWITCH, PUSH (1 KEY)(POWER)	

****

Ref. No.	Part No.	Description	Remark
*	1-642-883-21	POWER BOARD ***********	
		< CAPACITOR >	
C201	1-124-572-11	ELECT 100uF 20%	63V
C202	1-126-059-11	ELECT 10uF 20%	50V
C203	1-124-556-11	ELECT 2200uF 20%	16V
C204	1-126-937-11	ELECT 4700uF 20%	16V
C221	1-164-159-11	CERAMIC 0.1uF	50V
		< CONNECTOR >	
* CN201	1-564-511-11	PLUG, CONNECTOR 8P	
* CN203	1-580-230-11	PIN, CONNECTOR (PC BOARD) 3P	
		< DIODE >	
D201	8-719-200-02	DIODE 10E2 (M43:E, Saudi Arabia)	
D201	8-719-200-82	DIODE 11ES2 (EXCEPT M54/M43:E, Saudi Arabia)	
D202	8-719-110-03	DIODE RD7.5ES-B2	
D203	8-719-200-02	DIODE 10E2 (M43:E, Saudi Arabia)	
D203	8-719-200-82	DIODE 11ES2 (EXCEPT M54/M43:E, Saudi Arabia)	
D204	8-719-200-02	DIODE 10E2 (M43:E, Saudi Arabia)	
D204	8-719-200-82	DIODE 11ES2 (EXCEPT M54/M43:E, Saudi Arabia)	
D205	8-719-200-02	DIODE 10E2 (M43:E, Saudi Arabia)	
D205	8-719-200-82	DIODE 11ES2 (EXCEPT M54/M43:E, Saudi Arabia)	
D206	8-719-200-02	DIODE 10E2 (M43:E, Saudi Arabia)	
D206	8-719-200-82	DIODE 11ES2 (EXCEPT M54/M43:E, Saudi Arabia)	
		< IC >	
IC201	8-759-633-42	IC M5293L	
		< TRANSISTOR >	
Q201	8-729-119-76	TRANSISTOR 2SA1175-HFE	

Ref. No.	Part No.	Description	Remark
		< RESISTOR >	
R201	1-249-435-11	CARBON 33K 5%	1/4W
R202	1-249-438-11	CARBON 56K 5%	1/4W
R203	1-249-429-11	CARBON 10K 5%	1/4W
		< SWITCH >	
⚠S201	1-571-722-11	SWITCH, VOLTAGE SELECTION (E, Saudi Arabia)	

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MISCELLANEOUS
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Ref. No.	Part No.	Description	Remark
⚠23	1-558-946-21	CORD, POWER (M54:UK)	
⚠23	1-574-358-31	CORD, POWER(WITH CONNECTOR)(Australian)	
⚠23	1-575-651-21	CORD, POWER (AEP, Italian, Saudi Arabia)	
⚠23	1-575-653-21	CORD, POWER (E)	
⚠23	1-590-379-11	CORD, POWER (M43:UK)	
28	1-575-160-11	WIRE, FLAT TYPE (22 CORE)	
⚠32	1-569-007-11	ADAPTER, CONVERSION 2P (E)	
⚠32	1-569-008-11	ADAPTER, CONVERSION 2P (Saudi Arabia)	
* 110	1-452-538-11	MAGNET	
156	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
⚠157	8-848-144-11	DEVICE, OPTICAL KSS-240A	
D471	8-719-970-49	DIODE BR4361F (M54)	
M101	X-4917-523-3	BASE (OUTSERT) ASSY	
M102	X-4917-504-1	MOTOR ASSY	
M191	A-4604-363-A	MOTOR (L) ASSY	
⚠T901	1-449-922-11	TRANSFORMER, POWER (EXCEPT E, Saudi Arabia)	
⚠T901	1-449-923-11	TRANSFORMER, POWER (E, Saudi Arabia)	

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Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS ******************************	
	1-465-867-11	REMOTE COMMANDER (RM-D597) (M54)	
	1-558-271-11	CORD, CONNECTION (MADE IN FRANCE)	
	1-559-533-11	CORD, CONNECTION (MADE IN JAPAN)	
	2-181-754-01	COVER, BATTERY (M54)	
	3-754-665-11	MANUAL, INSTRUCTION (English/French Spanish/Portuguese) (M54:AEP, E, UK)	
	3-754-665-41	MANUAL, INSTRUCTION (Dutch/German Italian/Swedish) (M54:AEP)	
*	4-922-998-01	CUSHION (MADE IN JAPAN)	
*	4-927-355-03	CUSHION (MADE IN FRANCE)	
*	4-948-882-31	INDIVIDUAL CARTON (MADE IN FRANCE M43:AEP, Italian, UK)	
*	4-948-882-41	INDIVIDUAL CARTON (MADE IN FRANCE M54:AEP, UK)	
*	4-949-971-21	INDIVIDUAL CARTON (MADE IN JAPAN M43:AEP, Australian)	
*	4-949-971-41	INDIVIDUAL CARTON (MADE IN JAPAN M54:E, AEP)	

****

HARDWARE LIST

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#1	17-682-548-09	SCREW +BVTT 3X8 (S)
#2	27-682-547-09	SCREW +B 3X6
#3	37-682-547-04	SCREW +BVTT 3X6 (S)
#4	47-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S
#5	57-621-255-15	SCREW +P 2X3
#6	67-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S
#7	77-621-775-10	SCREW +B 2.6X4

9-957-062-11

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Audio Group

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CDP-C325M/C422M

SERVICE MANUAL

AEP Model
UK Model
E Model
Australian Model

Photo: CDP-C325M

Model Name Using Similar Mechanism	CDP-C225/C325
Optical Pick-up Block Type	BU-5BD8B

SPECIFICATIONS

	CDP-C325M	CDP-C422M
System	Compact disc digital audio system	
Laser	Semiconductor laser (λ = 780 nm) Emission duration: continuous	
Laser output	Max. 44.6 μW* * This output is the value measured at a distance of about 200 mm from the objective lens surface on the Optical Pick-up Block.	
Frequency response	2 Hz – 20 kHz (±0.5 dB)	
Signal to noise ratio	More than 100 dB	
Dynamic range	More than 98 dB	
Harmonic distortion	Less than 0.005% (1 kHz)	
Channel separation	More than 100 dB (1 kHz)	
Wow and flutter	Below measurable limit	
Outputs LINE OUT (phono jacks)	Output level 2 V (at 50 kilohms) Load impedance over 10 kilohms	
HEADPHONES (stereo phone jack)	Output level 0 – 10 mW (variable) (at 32 ohms)	

General

Power requirements	UK, Australian model: 240 V AC, 50/60 Hz AEP model: 220 – 230 V AC, 50/60 Hz E model: 110 – 120 or 220 – 240 V AC adjustable, 50/60 Hz
Power consumption	12 W
Dimensions (not including projecting parts and controls)	Approx. 355 × 120 × 385 mm (w/h/d) (14 × 4¾ × 15¼ inches)
Weight	Approx. 5.0 kg (11 lbs 01 oz)

Supplied accessories

	CDP-C325M	CDP-C422M
Audio signal connecting cord	1 (phono plug × 2 ↔ phono plug × 2)	
Remote commander	1 (RM-D325)	
Sony SUM-3 (NS) batteries	2	

Design and specifications subject to change without notice.

COMPACT DISC PLAYER

SONY®

For the United Kingdom and European Countries.

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

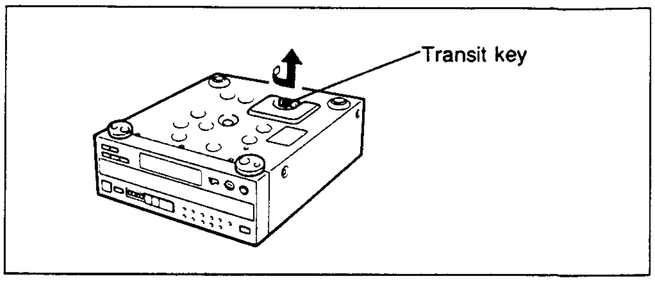
NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30cm away from the objective lens.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

Note on the Transit Key

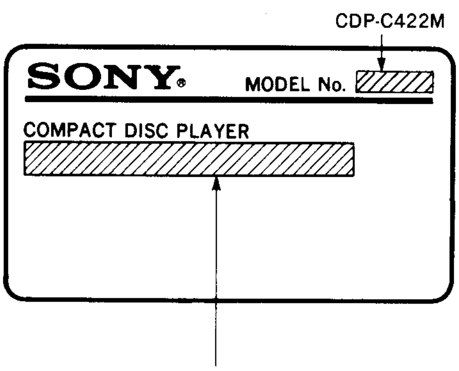


The transit key on the bottom exterior of the unit protects the optical system against shock during transportation. Before operating the CD player, be sure to remove the key by following the instructions on the label, and store it in a safe place.

When transporting the unit, replace the key in its original hole and lock it in place.

MODEL IDENTIFICATION

— Specification Label —



AEP model: AC: 220−230V~50/60Hz
UK, AUS model: AC: 240V~50/60Hz
E model: AC: 110−120, 220−240V~50/60Hz 12W

- AUS: Australian model

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs a laser. Therefore, be sure to follow carefully the instructions below when servicing.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

1. Laser Diode Properties
   - Material: GaAlAs
   - Wavelength: 780 nm
   - Emission Duration: continuous
   - Laser Output Power: less than 44.6 μW*
     * This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.

2. During service, do not take the Optical Pick-up Block apart, and do not adjust the APC circuit. If there is a breakdown in the APC circuit (including laser diode), replace the entire Optical Pick-up Block (including APC board).

BESKYTTELSE AF ØJNE MOD LASERSTRÅLING UNDER SERVICE

I dette apparat anvendes laserlys. Derfor skal nedenstående instruktioner nøje følges under service.

Følg iøvrigt instruktionerne i servicemanualen.

ADVARSEL!!

Under service må øjnene ikke komme nær objektiv-linsen på den optiske pick-up enhed. I tilfælde af at det er nødvendigt at kontrollere udsendelsen af laserlys, skal det ske i en afstand af mere end 25 cm fra den optiske pick-up.

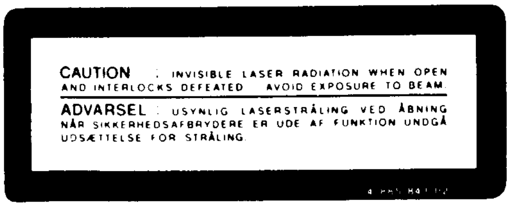
1. Laser-didoe data
   - Materiale: GaAlAs
   - Bølgelængde: 780 nm
   - Udstråling: Kontinuerlig
   - Laseroutput: Max. 0,4 mW*
     * Målt i 1,6 mm afstand fra overfladen af objektiv-linsen pa den optiske pick-up enhed.
   - Klassifikation: Klasse IIIb.

2. Adskil aldrig den optiske pick-up enhed under service, og juster ikke APC kredsløbet (Automatic Power Control). Hvis APC kredsløbet (incl. laser-dioden) bryder ned, skal hele den optiske pick-up enhed (incl. APC printkortet) udskiftes.

LASER ADVARSEL MÆRKNING

Følgende mærkning findes indvendig i apparatet:

1. Advarsel Mærkning



CAUTION : INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.

ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGÅ UDSÆTTELSE FOR STRÅLING.

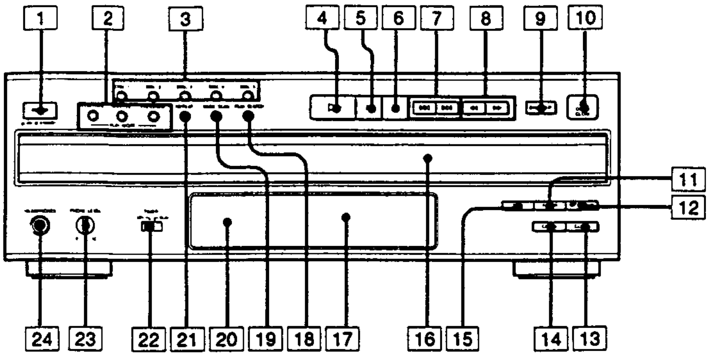
VAROITUS: Laite sisältää, laserdiodin, joka lähettää (näkymätöntä) silmille vaarallista lasersateilyä.

SECTION 1
GENERAL

This section is extracted from instruction manual.

1-1. LOCATION AND CONTROLS

Front Panel

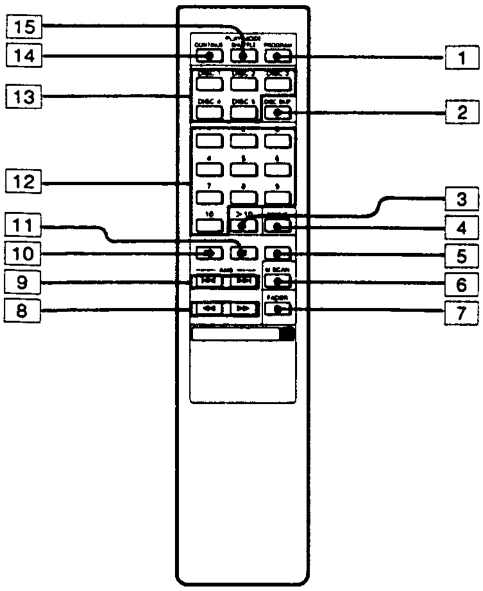


Refer to the pages indicated in ( ) for details.

1 POWER switch (page 18)
2 PLAY MODE buttons
CONTINUE button (page 18)
SHUFFLE button (page 28)
PROGRAM button (page 30)
3 DISC 1-5 buttons (page 18)
4 ► (play) button (page 18)
5 ❚❚ (pause) button (page 18)
6 ■ (stop) button (page 18)
7 ⏮/⏭ (AMS*) buttons (page 24)
8 ◄◄/►► (manual search) buttons (page 26)
9 DISC SKIP button (page 18)
10 ⏏ OPEN/CLOSE button (page 18)
11 FADER button (page 44)
12 EDIT/TIME FADE button (page 36)
13 CLEAR (program clear) button (page 34)
14 CHECK (program check) button (page 34)
15 TIME button (page 22)
16 Disc tray (page 18)
17 Display window
18 PEAK SEARCH button (page 48)
19 MUSIC SCAN button (page 42)
20 Remote sensor (CDP-C325M only)
21 REPEAT button (page 42)
22 TIMER switch (CDP-C325M only) (page 50)
23 PHONE LEVEL control (CDP-C325M only) (page 18)
24 HEADPHONES jack (CDP-C325M only)

* AMS is the abbreviation of Automatic Music Sensor.

Remote Commander



Refer to the pages indicated in ( ) for details.

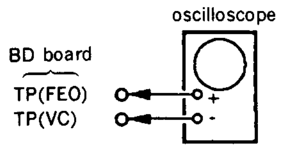
CDP-C325M only
1 PROGRAM button (page 30)
2 DISC SKIP button (page 18)
3 >10 (over 10) button (page 24)
4 REPEAT button (page 42)
5 ■ (stop) button (page 18)
6 MUSIC SCAN button (page 42)
7 FADER button (page 44)
8 ◄◄ ►► (manual search) buttons (page 26)
9 ⏮ ⏭ (AMS) buttons (page 24)
10 ► (play) button (page 18)
10 ❚❚ (pause) button (page 18)
11 Numeric buttons (1-10) (page 24)
13 DISC 1-5 buttons (page 18)
14 CONTINUE button (page 18)
15 SHUFFLE button (page 28)

SECTION 2
ELECTRICAL BLOCK CHECKING

Note :

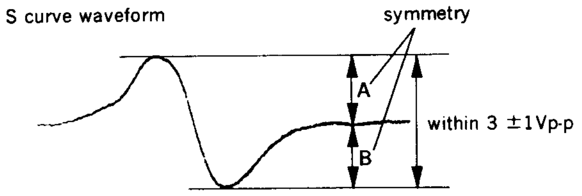
1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ impedance.
4. Clean an object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

S Curve Check


oscilloscope
BD board
TP(FEO)
TP(VC)
+
-

Procedure :

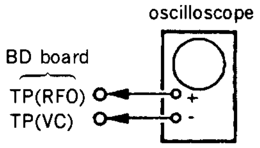
1. Connect oscilloscope to test point TP (FEO) on BD board.
2. Connect between test point TP (FES) and TP (VC) by lead wire.
3. Turned Power switch on and actuate the focus serch. (actuate the focus serch when disc table is moving in and out.)
4. Check the oscilloscope waveform (S curve) is symmetrical between A and B. And confirm peak to peak level within 3±1Vp-p.


S curve waveform
symmetry
A
B
within 3 ±1Vp-p

5. After check, remove the lead wire connected in step 2.

Note :
- Try to mesure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.
- Take sweep time as long as possible and light up the brightness to obtain best waveform.

RF Level Check

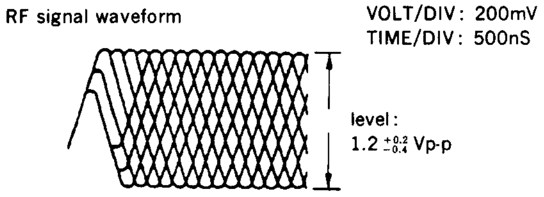

oscilloscope
BD board
TP(RFO)
TP(VC)
+
-

Procedure :

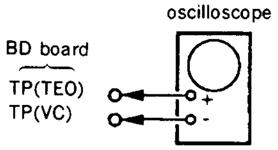
1. Connect oscilloscope to test point TP (RFO) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

Note :

Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.

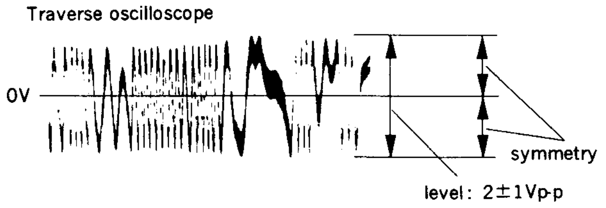

RF signal waveform
VOLT/DIV: 200mV
TIME/DIV: 500nS
level:
1.2 +0.2/-0.4 Vp-p

E-F Balance Check


oscilloscope
BD board
TP(TEO)
TP(VC)
+
-

Procedure :

1. Connect test point TP (ADJ) to ground and TP (TES) to TP (VC) with lead wire.
2. Connect oscilloscope to test point TP (TEO) on BD board.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and playback.
5. Confirm that the osilloscope waveform is symmetrical on the top and bottom in relation to 0V, and check this level.

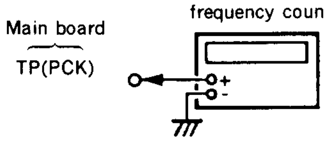

Traverse oscilloscope
0V
symmetry
level: 2±1Vp-p

6. Remove the lead wire connected in step 1.

RF PLL Free-run Frequency Check

Procedure :

1. Connect frequency counter to test point (PCK) with lead wire.


frequency counter
Main board
TP(PCK)
+
-

2. Turn Power switch on.
3. Confirm that reading on frequency counter is 4.3218MHz.

Focus/Tracking Gain

This gain has a margin, so even if it is slightly off.

There is no problem.

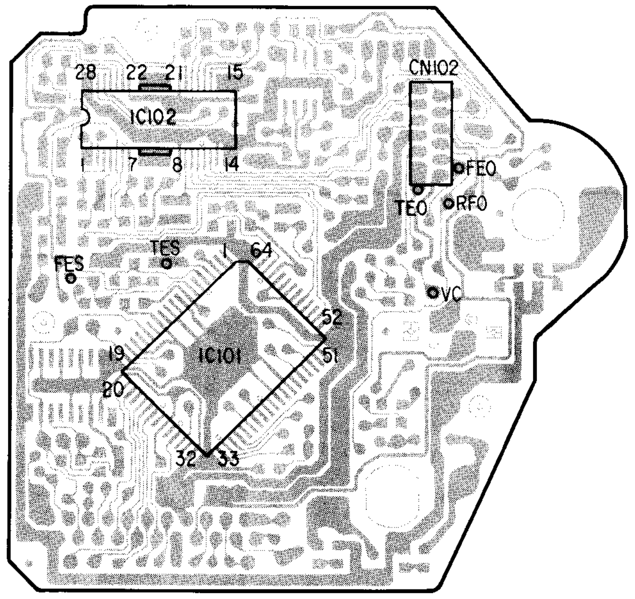
Therefore, do not perform, this adjustment.

Please note that it should be fixed to mechanical center position when you moved and do not know original position.

Adjustment Locations :

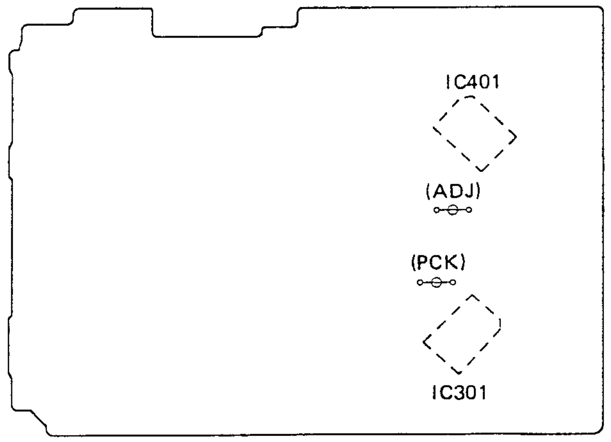
[BD Board]

—Conductor Side—


28
22
21
15
CN102
IC102
1
7
8
14
FEO
TEO
RFO
FES
TES
1
64
VC
52
51
IC101
19
20
32
33

[MAIN Board]

—Component Side—


IC401
(ADJ)
(PCK)
IC301

3-1.

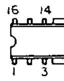
POWE

HP BO

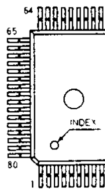
3-2.

BA629

CXA12



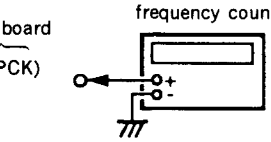
CXD25
CXP50
CXP50


64
65
80
1
INDEX

MARKIN

equency Check

y counter to test point (PCK) with lead



board
PCK)
frequency counter
+
-

ch on.

ing on frequency counter is 4.3218MHz.

n

in, so even if it is slightly off.

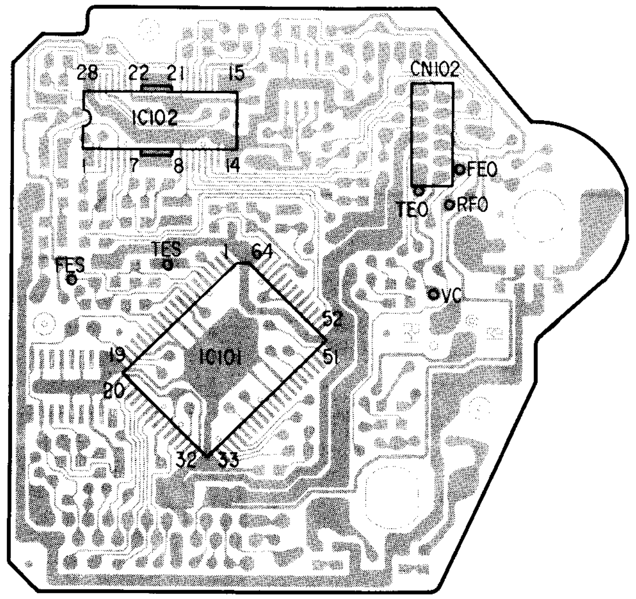
form, this adjustment.

hould be fixed to mechanical center ved and do not know original position.

Adjustment Locations:

【BD Board】

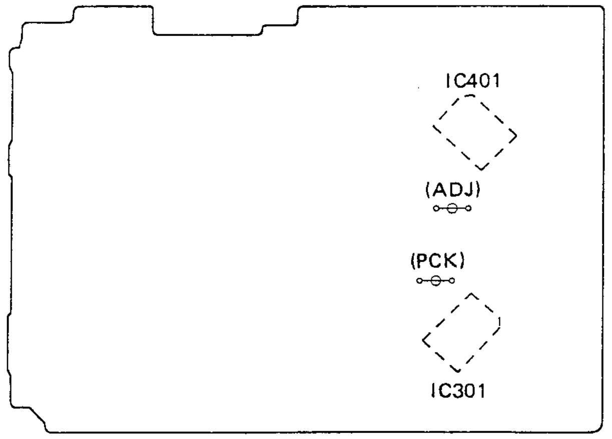
—Conductor Side—



28
22
21
15
IC102
1
7
8
14
CN102
FEO
TEO
RFO
FES
TES
1
64
VC
52
51
19
20
IC101
32
33

【MAIN Board】

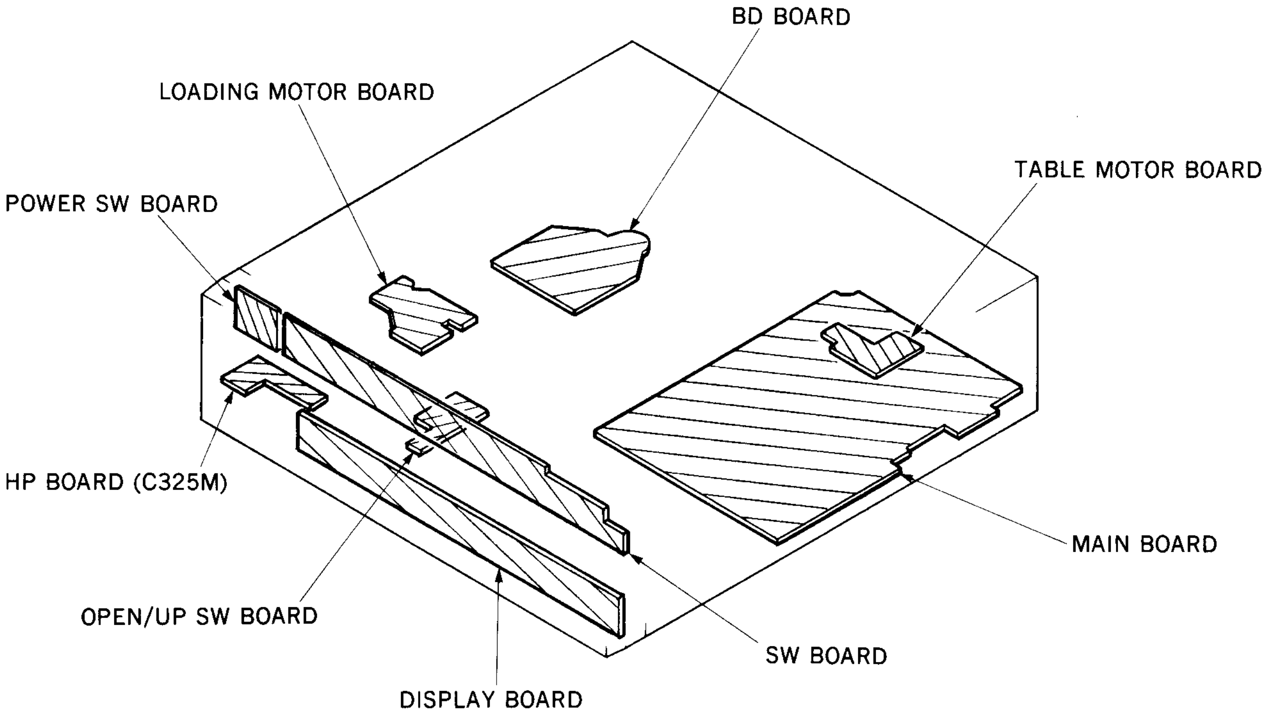
—Component Side—



IC401
(ADJ)
(PCK)
IC301

SECTION 3
DIAGRAMS

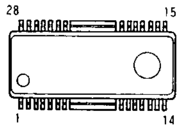
3-1. CIRCUIT BOARDS LOCATION



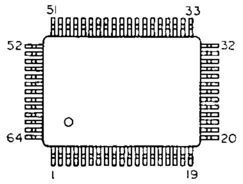
BD BOARD
LOADING MOTOR BOARD
TABLE MOTOR BOARD
POWER SW BOARD
HP BOARD (C325M)
MAIN BOARD
OPEN/UP SW BOARD
SW BOARD
DISPLAY BOARD

3-2. SEMICONDUCTOR LEAD LAYOUTS

BA6297AFP



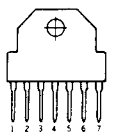
CXD2501Q



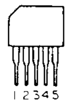
51
33
52
32
64
20
1
19

(TOP VIEW)

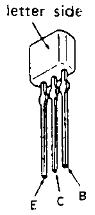
LA5602



M5293L

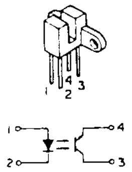


2SA1175-HFE

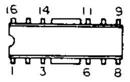


letter side
E
C
B

GP-1A521

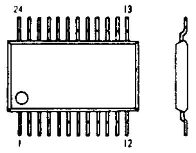


CXA1291P



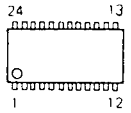
16
14
11
9
1
3
6
8

CXD2560M



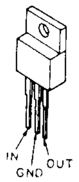
(TOPVIEW)

LA9215

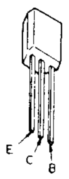


(TOP VIEW)

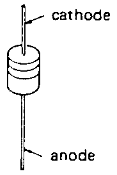
M5F7807L



DTA114ES
DTC114ES
DTC144ES

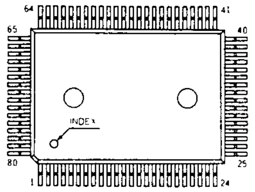


11ES2
1N4148M
RD8.2ES-B2



cathode
anode

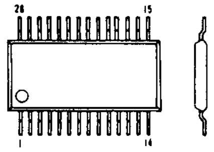
CXD2500AQ
CXP50116-287Q
CXP50120-020Q



64
41
65
40
INDEX
80
25
1
24

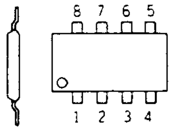
MARKING SIDE VIEW

CXD2561BM



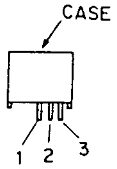
(TOP VIEW)

M5218AP



(TOP VIEW)

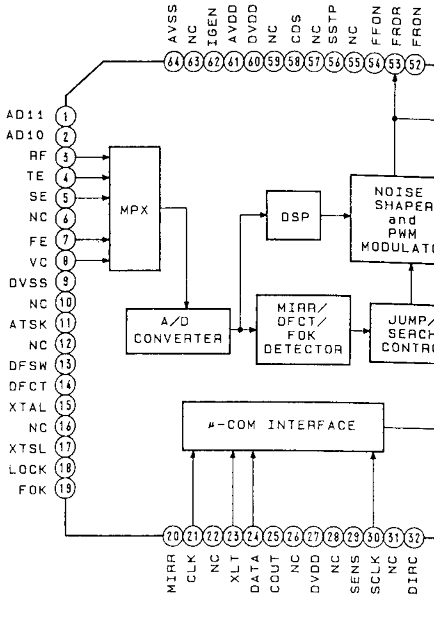
SBX1610-59



1 = VDD
2 = SIRCS
3 = GND

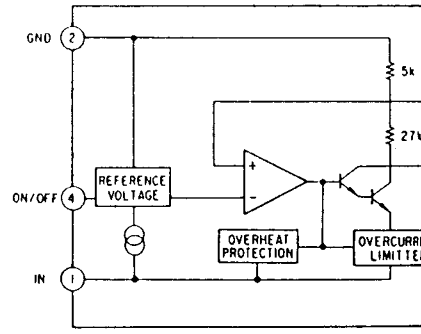
• IC Block Diagrams

IC101 CXD2501Q



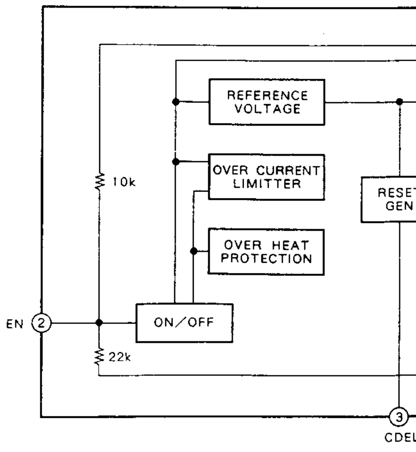
AVSS
NC
IGEN
AVDD
DVDD
NC
CDS
NC
SSTP
NC
FFON
FRDR
FRON
64
63
62
61
60
59
58
57
56
55
54
53
52
AD11 1
AD10 2
RF 3
TE 4
SE 5
NC 6
FE 7
VC 8
DVSS 9
NC 10
ATSK 11
NC 12
DFSW 13
DFCT 14
XTAL 15
NC 16
XTSL 17
LOCK 18
FOK 19
MPX
DSP
NOISE
SHAPER
and
PWM
A/D
CONVERTER
MIRR/
DFCT/
FOK
DETECTOR
JUMP/
SERCH
μ-COM INTERFACE
20
21
22
23
24
25
26
27
28
29
30
31
32
MIRR
CLK
NC
XLT
DATA
COUT
NC
DVDD
NC
SENS
SCLK
NC
DIRC

IC201 M5293L



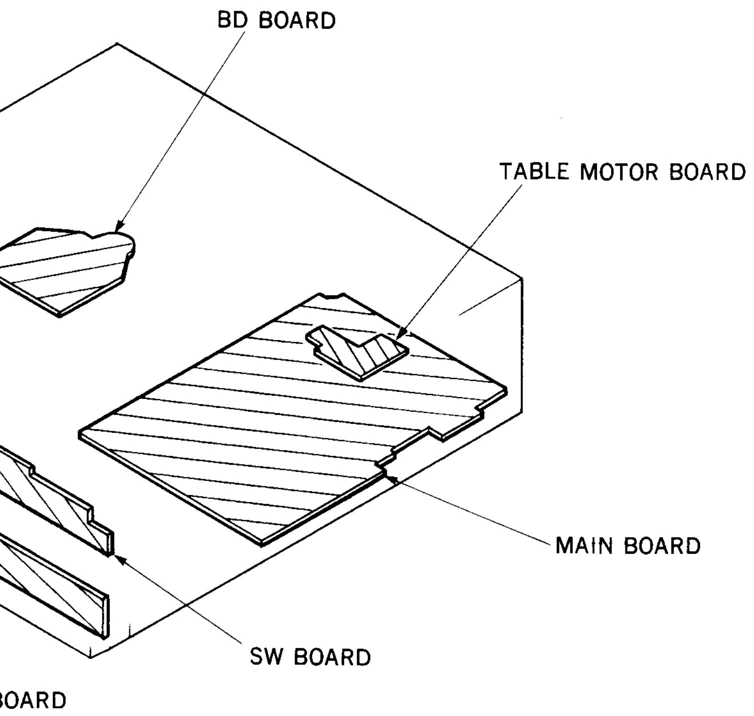
GND 2
5k
27k
REFERENCE
VOLTAGE
ON/OFF 4
OVERHEAT
PROTECTION
IN 1

IC202 LA5602

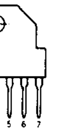


REFERENCE
VOLTAGE
OVER CURRENT
LIMITTER
10k
OVER HEAT
PROTECTION
EN 2
ON/OFF
22k
3

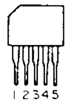
SECTION 3
DIAGRAMS


BD BOARD
TABLE MOTOR BOARD
MAIN BOARD
SW BOARD
OARD

02

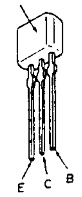


M5293L

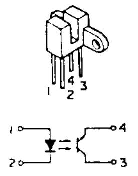


2SA1175-HFE

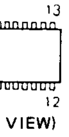
letter side



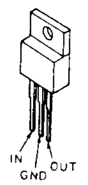
GP-1A521



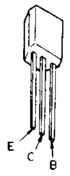
.5



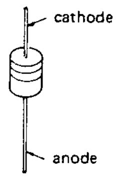
M5F7807L



DTA114ES
DTC114ES
DTC144ES

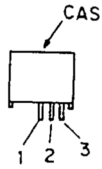


11ES2
1N4148M
RD8.2ES-B2


cathode
anode

3AP

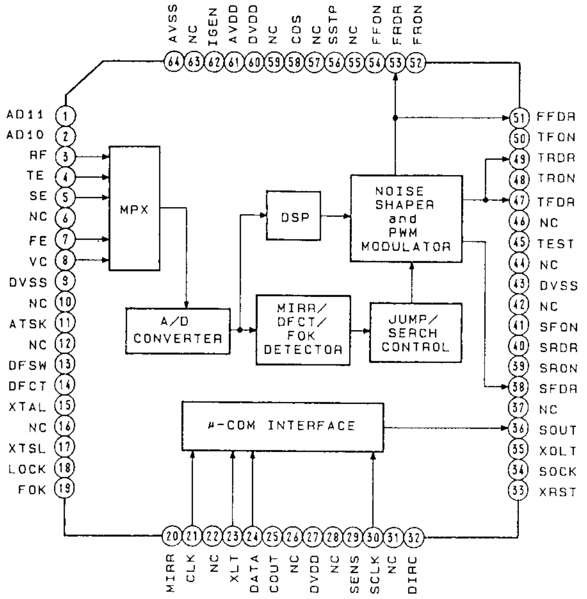
SBX1610-59



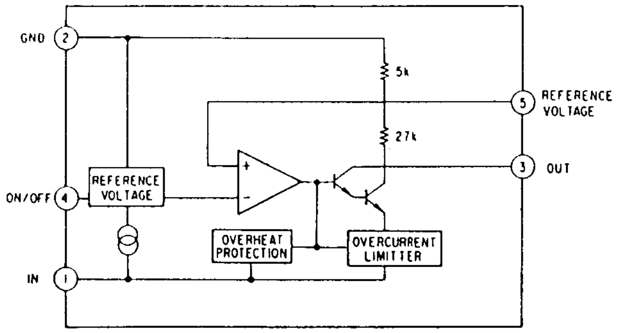
1 = VDD
2 = SIRCS
3 = GND

• IC Block Diagrams

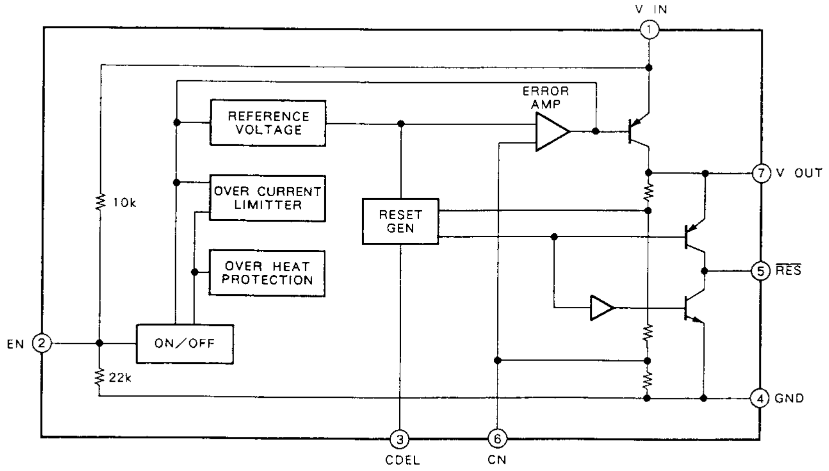
IC101 CXD2501Q


AVSS NC IGEN AVDD DVDD NC CDS NC SSTP NC FFON FRDR FRON
AD11 AD10 RF TE SE NC FE VC DVSS NC ATSK NC DFSW DFCT XTAL NC XTSL LOCK FOK
MPX
A/D CONVERTER
DSP
MIRR/DFCT/FOK DETECTOR
NOISE SHAPER and PWM MODULATOR
JUMP/SEARCH CONTROL
μ-COM INTERFACE
FFDR TFON TRDR TRON TFDR NC TEST NC DVSS NC SFON SRDR SRON SFDR NC SOUT XOLT SOCK XRST
MIRR CLK NC NC XLT DATA COUT NC DVDD NC SENS SCLK NC DIRC

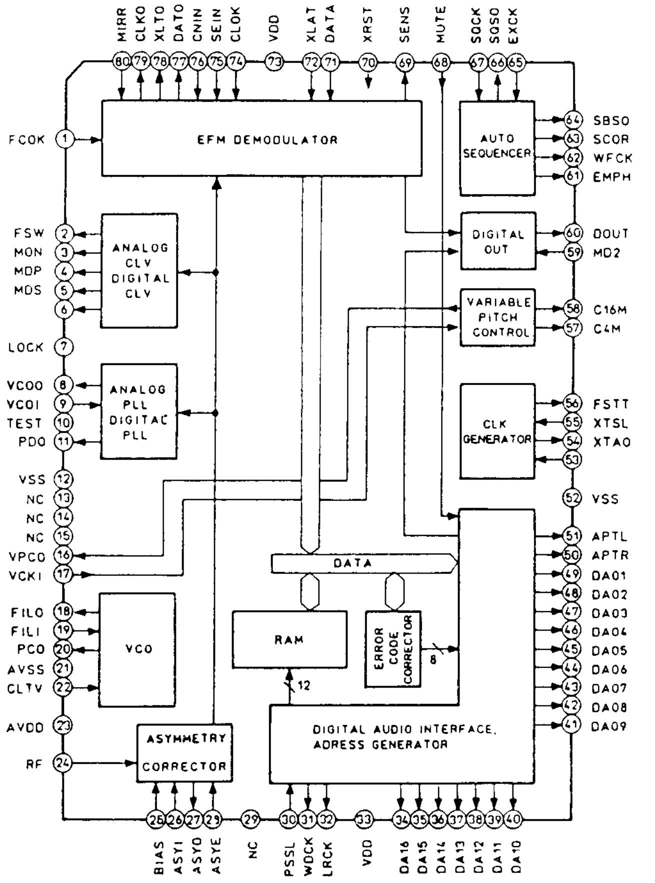
IC201 M5293L


GND
ON/OFF
IN
REFERENCE VOLTAGE
OVERHEAT PROTECTION
OVERCURRENT LIMITTER
5k
27k
REFERENCE VOLTAGE
OUT

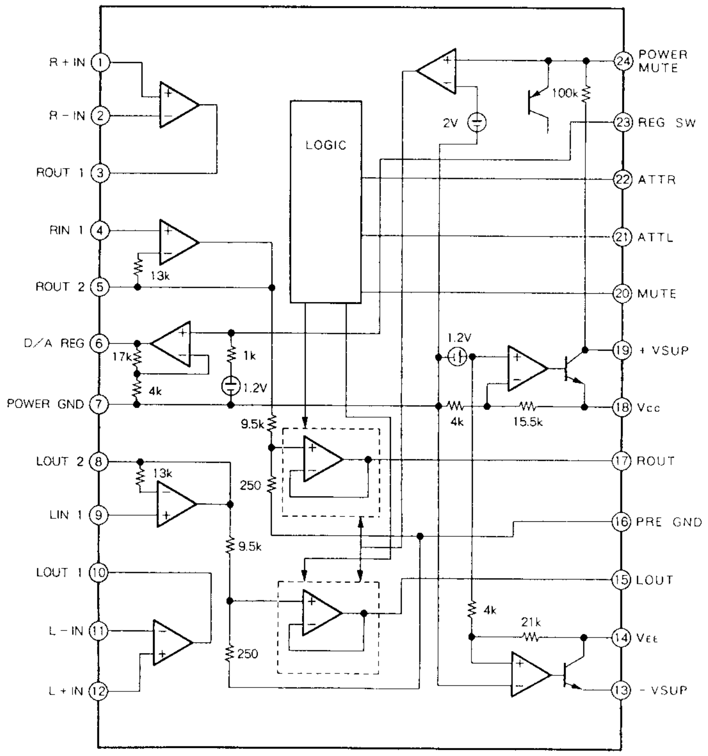
IC202 LA5602


V IN
REFERENCE VOLTAGE
OVER CURRENT LIMITTER
OVER HEAT PROTECTION
ERROR AMP
RESET GEN
ON/OFF
10k
22k
EN
V OUT
RES
GND
CDEL
CN

IC301 CXD2500AQ


MIRR CLKO XLTO DATO CNIN SEIN CLOK VDD XLAT DATA XRST SENS MUTE SOCK SQSO EXCK
FCOK FSW MON MDP MDS LOCK VCOO VCOI TEST PDO VSS NC NC NC VPCO VCKI FILO FILI PCO AVSS CLTV AVDD RF
EFM DEMODULATOR
AUTO SEQUENCER
DIGITAL OUT
VARIABLE PITCH CONTROL
CLK GENERATOR
ANALOG CLV DIGITAL CLV
ANALOG PLL DIGITAC PLL
DATA
VCO
RAM
ERROR CODE CORRECTOR
DIGITAL AUDIO INTERFACE, ADRESS GENERATOR
ASYMMETRY CORRECTOR
SBSO SCOR WFCK EMPH DOUT MD2 C16M C4M FSTT XTSL XTAO VSS APTL APTR DA01 DA02 DA03 DA04 DA05 DA06 DA07 DA08 DA09
BIAS ASYI ASYO ASYE NC PSSL WDCK LRCK VDD DA16 DA15 DA14 DA13 DA12 DA11 DA10

IC306 LA9215

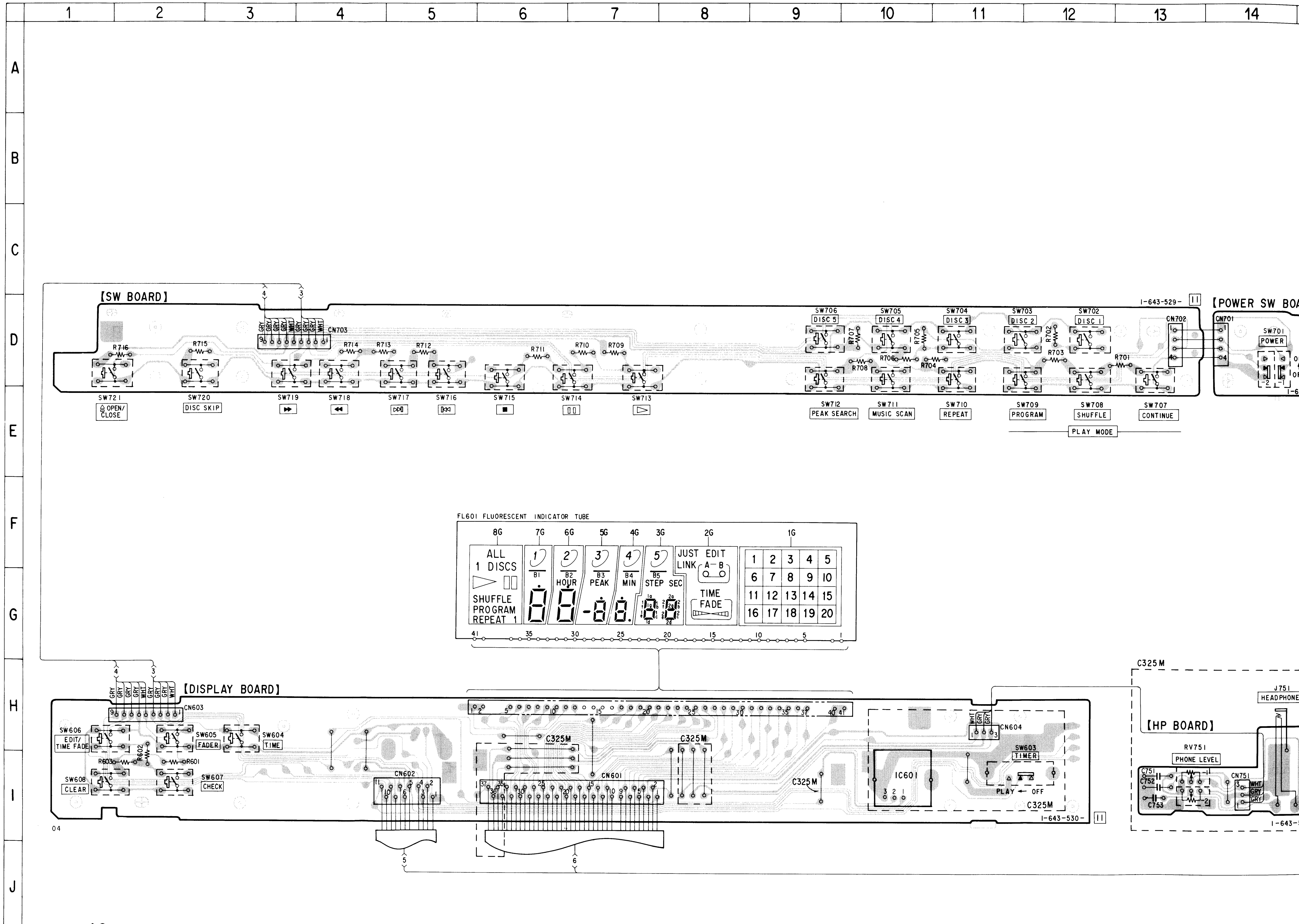

R + IN
R − IN
ROUT 1
RIN 1
ROUT 2
D/A REG
POWER GND
LOUT 2
LIN 1
LOUT 1
L − IN
L + IN
LOGIC
13k
17k
4k
1k
1.2V
9.5k
250
2V
100k
POWER MUTE
REG SW
ATTR
ATTL
MUTE
+ VSUP
Vcc
ROUT
PRE GND
LOUT
Vee
− VSUP
1.2V
4k
15.5k
21k

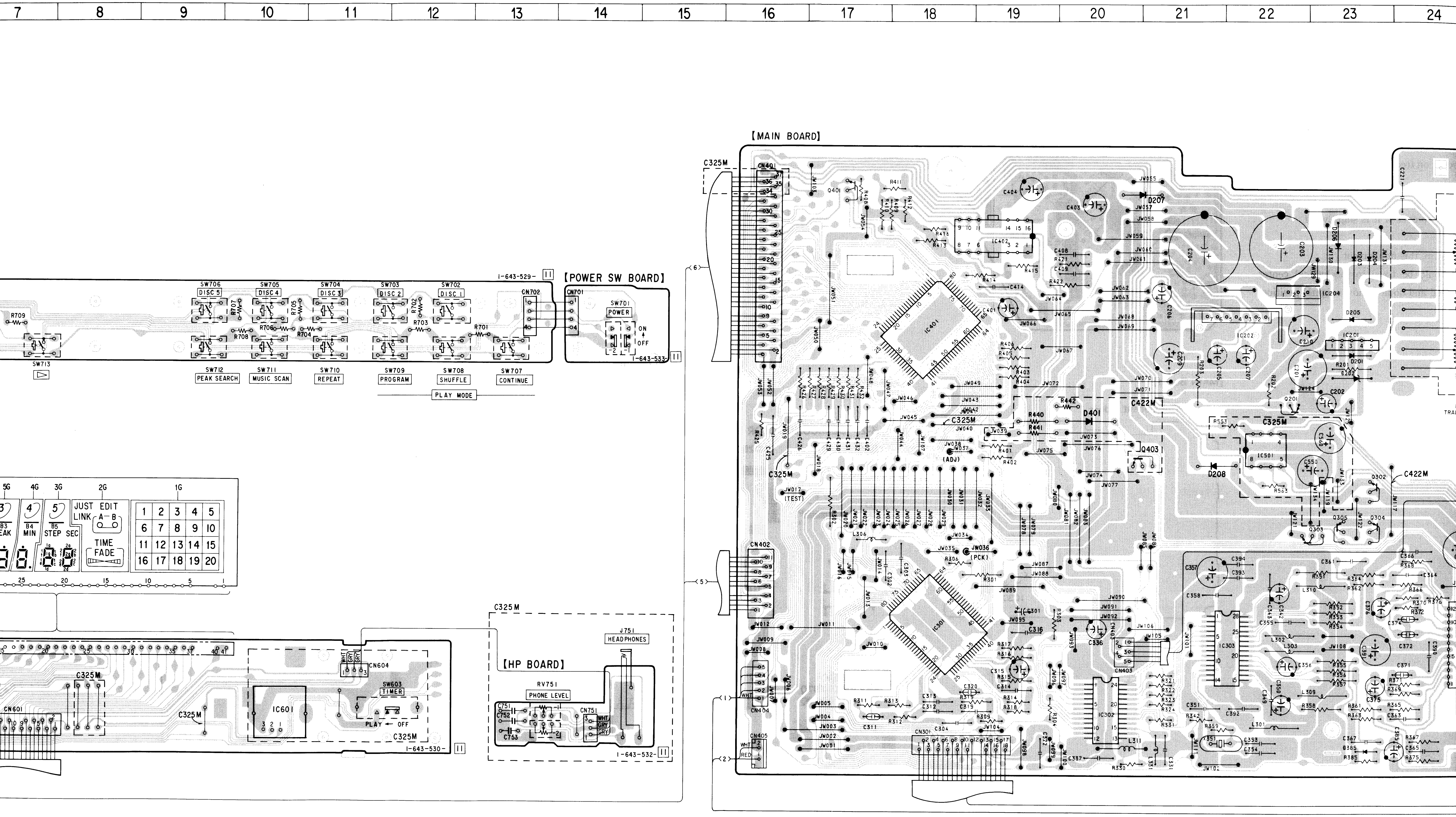
• Semiconductor Location

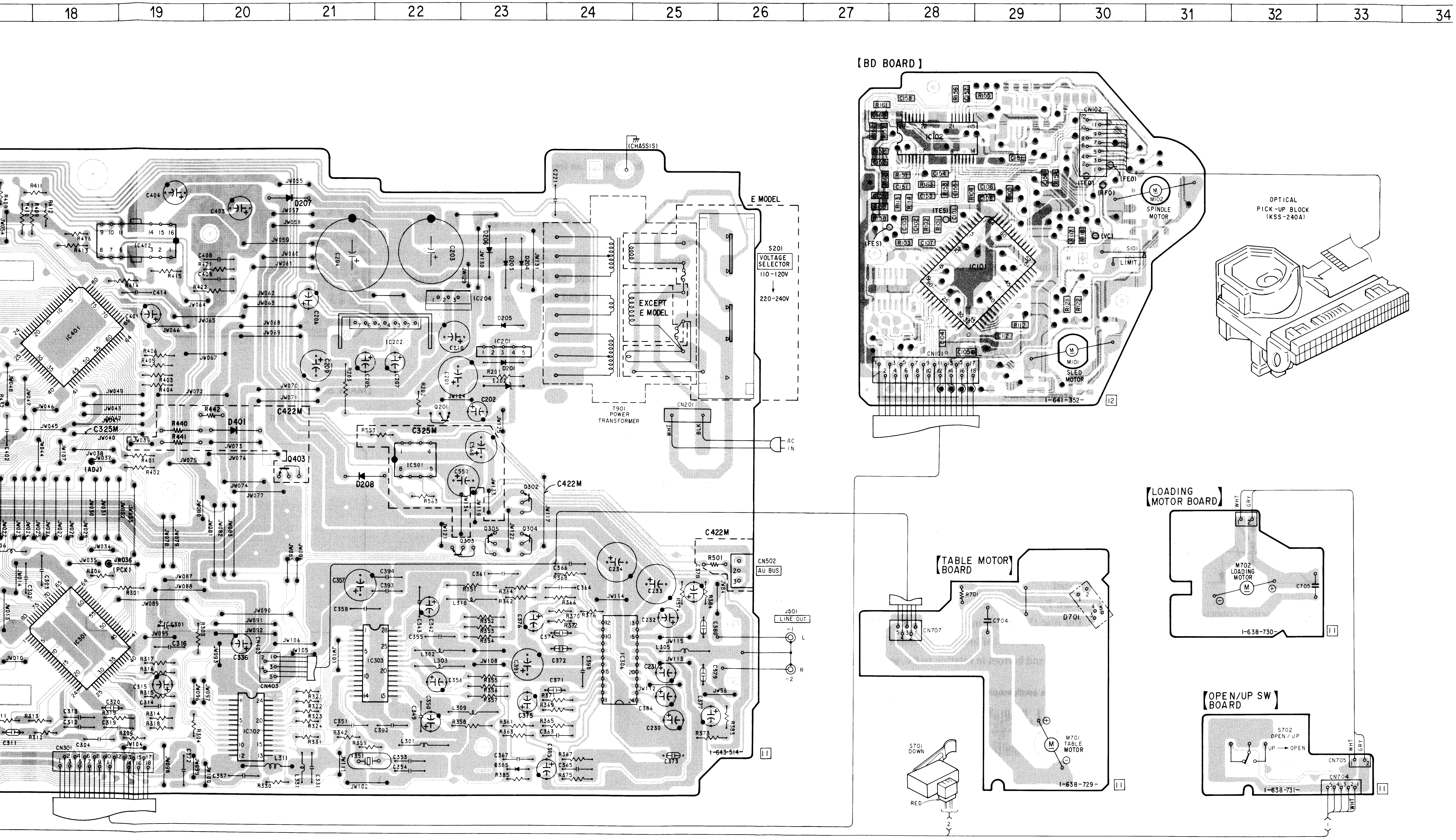
Ref. No.	Location
D201	D-23
D202	E-23
D203	C-23
D204	C-23
D205	D-23
D206	C-23
D207	C-20
D208	F-21
D385	I-23
D401	E-20
D701	G-30
IC101	C-28
IC102	B-28
IC201	D-23
IC202	D-22
IC204	D-22
IC301	H-18
IC302	I-20
IC303	H-21
IC306	H-24
IC401	D-18
IC402	C-19
IC501	F-22
IC601	I-10
Q201	E-22
Q302	F-23
Q303	G-22
Q304	G-23
Q305	G-23
Q401	C-17
Q403	F-20

Note:
- ○—— : parts extracted from the component side.
- ● : Through hole.
- ▨ : Pattern on the side which is seen.
- ░ : Pattern of the rear side.

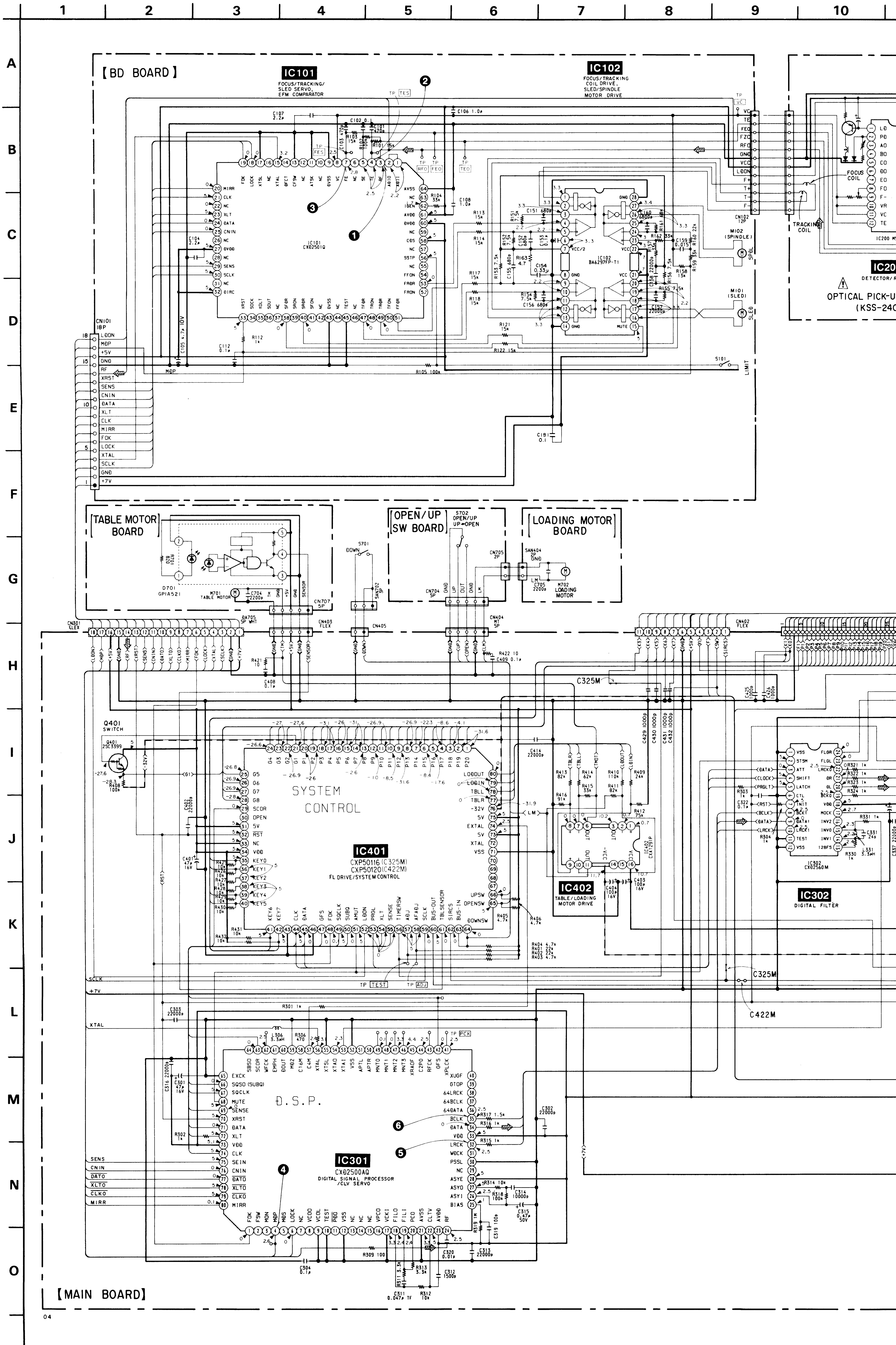
3-3. PRINTED WIRING BOARDS • Refer to page 7 for Semiconductor Lead Layouts.

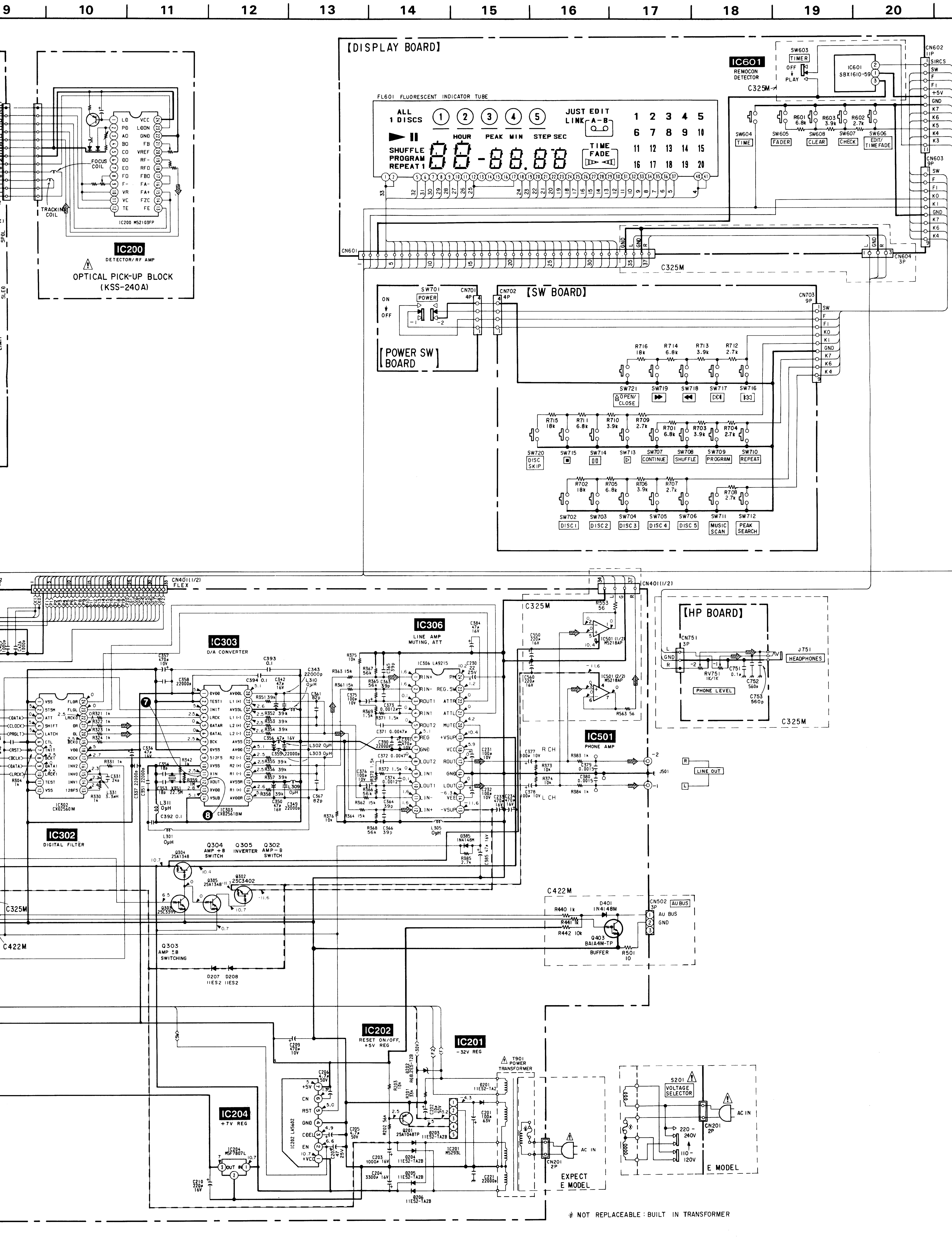

1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
[SW BOARD]
1-643-529- 11
CN703
GRY
WHT
SW721 OPEN/CLOSE
SW720 DISC SKIP
SW719
SW718
SW717
SW716
SW715
SW714
SW713
R716
R715
R714
R713
R712
R711
R710
R709
SW706 DISC 5
SW705 DISC 4
SW704 DISC 3
SW703 DISC 2
SW702 DISC 1
R707
R706
R705
R704
R702
R703
R701
R708
CN702
SW712 PEAK SEARCH
SW711 MUSIC SCAN
SW710 REPEAT
SW709 PROGRAM
SW708 SHUFFLE
SW707 CONTINUE
PLAY MODE
[POWER SW BOA
CN701
SW701 POWER
FL601 FLUORESCENT INDICATOR TUBE
8G
7G
6G
5G
4G
3G
2G
1G
ALL
1 DISCS
SHUFFLE
PROGRAM
REPEAT 1
B1
B2 HOUR
B3 PEAK
B4 MIN
B5 STEP SEC
JUST EDIT
LINK A–B
TIME FADE
41
35
30
25
20
15
10
5
1
[DISPLAY BOARD]
CN603
SW606 EDIT/TIME FADE
SW605 FADER
SW604 TIME
SW608 CLEAR
SW607 CHECK
R603
R602
R601
CN602
CN601
C325M
IC601
CN604
SW603 TIMER
PLAY ← OFF
1-643-530- 11
C325M
J751 HEADPHONE
[HP BOARD]
RV751 PHONE LEVEL
C751
C752
C753
CN751
1-643-

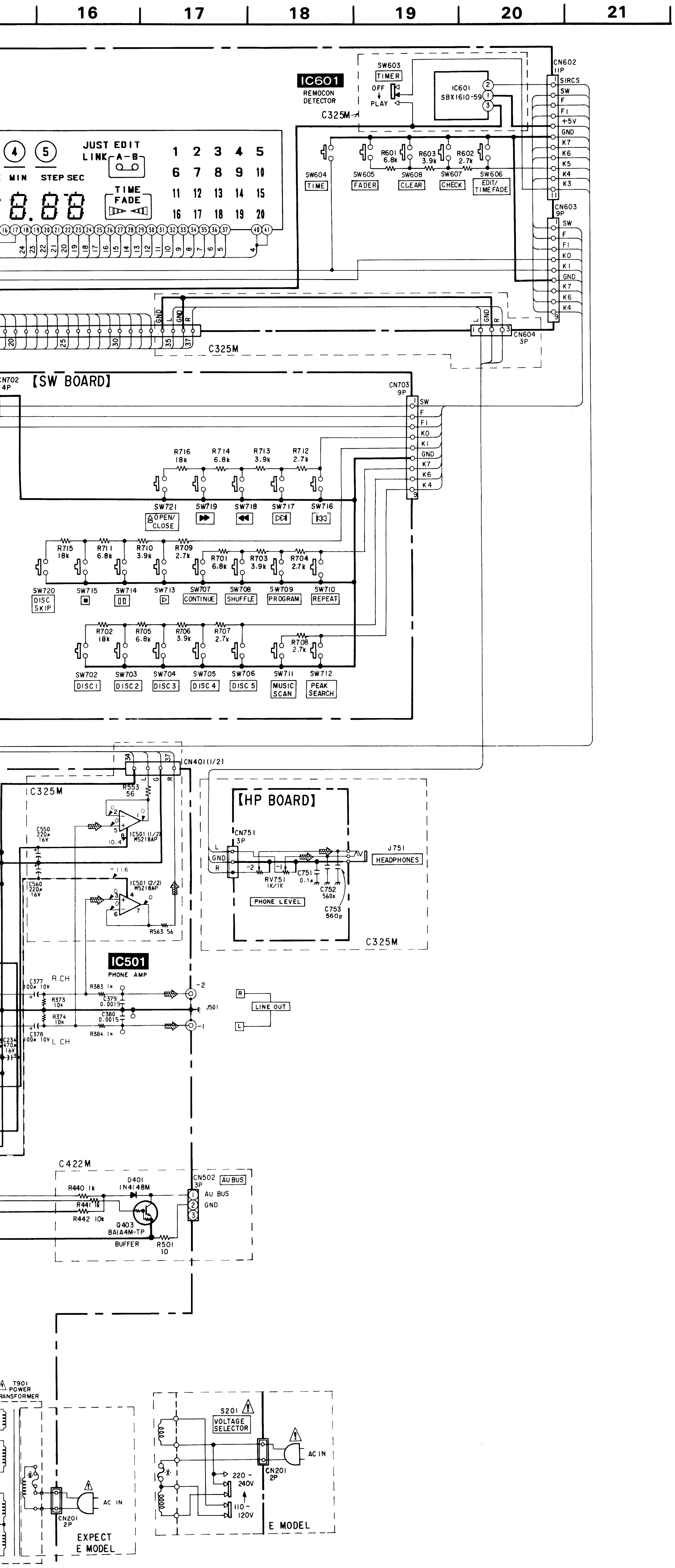

7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
【POWER SW BOARD】
1-643-529- 11
SW706 DISC 5
SW705 DISC 4
SW704 DISC 3
SW703 DISC 2
SW702 DISC 1
SW701 POWER
ON OFF
1-643-533- 11
CN702
CN701
R709
R707
R708
R706
R705
R704
R703
R702
R701
SW713
SW712 PEAK SEARCH
SW711 MUSIC SCAN
SW710 REPEAT
SW709 PROGRAM
SW708 SHUFFLE
SW707 CONTINUE
PLAY MODE
5G
4G
3G
2G
1G
B3 PEAK
B4 MIN
B5 STEP SEC
JUST EDIT LINK A-B
TIME FADE
1 2 3 4 5
6 7 8 9 10
11 12 13 14 15
16 17 18 19 20
25
20
15
10
5
1
C325M
CN601
IC601
CN604
WHT GRY GRY
SW603 TIMER
PLAY OFF
1-643-530- 11
C325M
【HP BOARD】
J751 HEADPHONES
RV751 PHONE LEVEL
C751
C752
C753
CN751
WHT GRY GRY
1-643-532- 11
【MAIN BOARD】
C325M
CN401
CN402
CN404
CN405
WHT RED
(6)
(5)
(1)
(2)
IC401
IC402
IC301
IC302
IC303
IC501
IC201
IC202
IC204
Q401
Q403
Q201
Q302
Q303
Q304
Q305
D207
D401
D208
D201
D203
D204
D205
D206
C203
C204
C221
C325M
C422M
JW017 (TEST)
JW036 (PCK)
JW038 (ADJ)
CN301
CN403
L301
L302
L303
L306
L309
L310
L311
TRA


18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
【BD BOARD】
IC101
IC102
CN101
CN102
(FES)
(TES)
(TEO)
(FEO)
(RFO)
(VC)
S101
LIMIT
M102
SPINDLE MOTOR
M101
SLED MOTOR
1-641-352-
OPTICAL PICK-UP BLOCK (KSS-240A)
(CHASSIS)
E MODEL
S201
VOLTAGE SELECTOR
110-120V
220-240V
EXCEPT E MODEL
T901
POWER TRANSFORMER
CN201
WHT
BLK
AC IN
IC401
IC402
IC301
IC302
IC303
IC304
IC501
IC201
IC202
IC204
C422M
C325M
D401
D207
D208
Q403
(ADJ)
(PCK)
CN301
CN403
CN502
AU BUS
J501
LINE OUT
L
R
1-643-514-
【TABLE MOTOR BOARD】
CN707
D701
M701
TABLE MOTOR
1-638-729-
S701
DOWN
RED
【LOADING MOTOR BOARD】
WHT
GRY
M702
LOADING MOTOR
1-638-730-
【OPEN/UP SW BOARD】
S702
OPEN/UP
UP → OPEN
CN705
CN704
1-638-731-

3-4. SCHEMATIC DIAGRAM • Refer to page 8 for IC Block Diagrams.

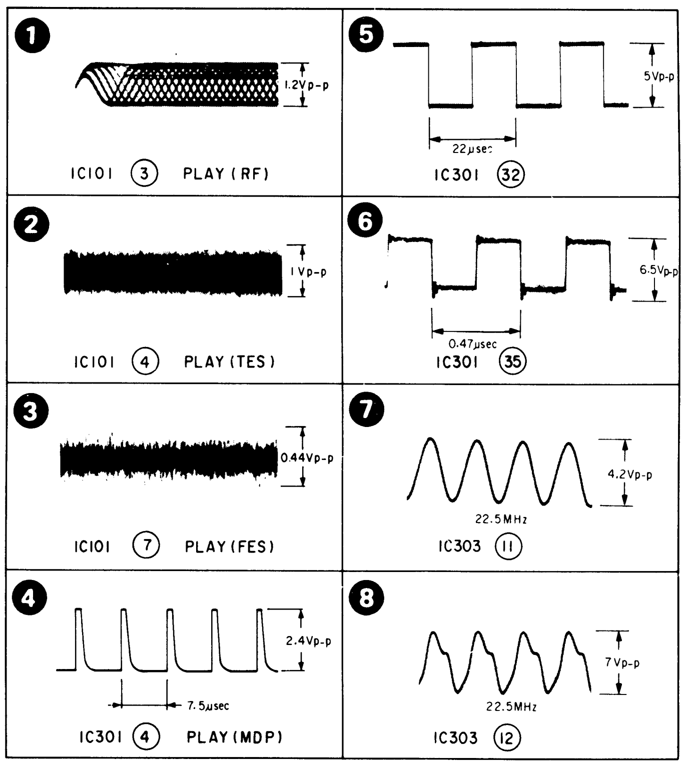

[BD BOARD]
IC101
FOCUS/TRACKING/SLED SERVO, EFM COMPARATOR
IC101 CXD2501Q
IC102
FOCUS/TRACKING COIL DRIVE, SLED/SPINDLE MOTOR DRIVE
IC102 BA6297FP-T1
CN101 18P
CN102 12P
M102 (SPINDLE)
M101 (SLED)
S101 LIMIT
FOCUS COIL
TRACKING COIL
IC200
DETECTOR/
OPTICAL PICK-UP
(KSS-240
[TABLE MOTOR BOARD]
D701 GP1A52I
M701 TABLE MOTOR
CN707 5P
[OPEN/UP SW BOARD]
S702 OPEN/UP UP→OPEN
S701 DOWN
CN705 2P
CN704 5P
[LOADING MOTOR BOARD]
M702 LOADING MOTOR
CN301 FLEX
CN403 FLEX
CN405
CN404 MT 5P
CN402 FLEX
Q401 SWITCH 2SC3399
SYSTEM CONTROL
IC401
CXP50116 (C325M)
CXP50120 (C422M)
FL DRIVE/SYSTEM CONTROL
IC402
TABLE/LOADING MOTOR DRIVE
IC402 CXA1291P
IC302
DIGITAL FILTER
IC302 CXD2560M
C325M
C422M
D.S.P.
IC301
CXD2500AQ
DIGITAL SIGNAL PROCESSOR /CLV SERVO
[MAIN BOARD]
TP TES
TP FES
TP RFO
TP FEO
TP TEO
TP VC
TP TEST
TP ADJ
TP PCK
1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P


9
10
11
12
13
14
15
16
17
18
19
20
【DISPLAY BOARD】
IC601
REMOCON DETECTOR
IC601 SBX1610-59
SW603 TIMER
OFF
PLAY
C325M
CN602 11P
SIRCS
SW
F
FI
+5V
GND
K7
K6
K5
K4
K3
FL601 FLUORESCENT INDICATOR TUBE
ALL 1 DISCS
1 2 3 4 5
JUST EDIT LINK A-B
HOUR PEAK MIN STEP SEC
SHUFFLE PROGRAM REPEAT 1
TIME FADE
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
SW604 TIME
SW605 FADER
R601 6.8k
R603 3.9k
R602 2.7k
SW608 CLEAR
SW607 CHECK
SW606 EDIT/TIME FADE
CN603 9P
K1
K0
CN601
CN604 3P
IC200
DETECTOR/RF AMP
OPTICAL PICK-UP BLOCK (KSS-240A)
FOCUS COIL
TRACKING COIL
IC200 M52103FP
LD PD AO BO CO DO EO FO F- VR VC TE
VCC LDON GND FB VREF RF- RFO FBO FA- FA+ FZC FE
SW701 POWER
ON OFF
CN701 4P
CN702 4P
【POWER SW BOARD】
【SW BOARD】
CN703 9P
R716 18k
R714 6.8k
R713 3.9k
R712 2.7k
SW721 OPEN/CLOSE
SW719
SW718
SW717
SW716
R715 18k
R711 6.8k
R710 3.9k
R709 2.7k
R701 6.8k
R703 3.9k
R704 2.7k
SW720 DISC SKIP
SW715
SW714
SW713
SW707 CONTINUE
SW708 SHUFFLE
SW709 PROGRAM
SW710 REPEAT
R702 18k
R705 6.8k
R706 3.9k
R707 2.7k
R708 2.7k
SW702 DISC1
SW703 DISC2
SW704 DISC3
SW705 DISC4
SW706 DISC5
SW711 MUSIC SCAN
SW712 PEAK SEARCH
CN401 (1/2) FLEX
CN401 (1/2)
IC303
D/A CONVERTER
IC303 CXD2561BM
IC302
DIGITAL FILTER
IC302 CXD2560M
IC306
LINE AMP MUTING, ATT
IC306 LA9215
IC501
PHONE AMP
IC501 (1/2) M5218AP
IC501 (2/2) M5218AP
【HP BOARD】
CN751 3P
RV751 1K/1K
PHONE LEVEL
J751 HEADPHONES
C751 0.1
C752 560p
C753 560p
R CH
L CH
J501
LINE OUT
Q304 AMP +B SWITCH
Q305 INVERTER
Q302 AMP -B SWITCH
Q304 2SA1348
Q305 2SA1348
Q302 2SC3402
Q303 2SC3399
Q303 AMP ±B SWITCHING
D207 D208 11ES2 11ES2
C422M
CN502 3P AU BUS
AU BUS
GND
D401 1N4148M
Q403 BA1A4M-TP BUFFER
R440 1k
R441 1k
R442 10k
R501 10
IC202
RESET ON/OFF, +5V REG
IC202 LA5602
IC201
-32V REG
IC201 M5293L
IC204
+7V REG
IC204 M5F7807L
T901 POWER TRANSFORMER
Q201 2SA1048TP
CN201 2P
AC IN
EXPECT E MODEL
S201 VOLTAGE SELECTOR
220 - 240V
110 - 120V
E MODEL
※ NOT REPLACEABLE : BUILT IN TRANSFORMER


16
17
18
19
20
21
IC601
REMOCON DETECTOR
SW603 TIMER
OFF PLAY
IC601 SBX1610-59
C325M
CN602 11P
SIRCS
SW
F
FI
+5V
GND
K7
K6
K5
K4
K3
JUST EDIT
LINK A–B
MIN
STEP SEC
TIME FADE
1 2 3 4 5
6 7 8 9 10
11 12 13 14 15
16 17 18 19 20
SW604 TIME
R601 6.8k
R603 3.9k
R602 2.7k
SW605 FADER
SW608 CLEAR
SW607 CHECK
SW606 EDIT/ TIME FADE
CN603 9P
SW
F
FI
KO
KI
GND
K7
K6
K4
CN604 3P
GND L R
C325M
CN702 4P
[SW BOARD]
CN703 9P
R716 18k
R714 6.8k
R713 3.9k
R712 2.7k
SW721 OPEN/CLOSE
SW719
SW718
SW717
SW716
R715 18k
R711 6.8k
R710 3.9k
R709 2.7k
R701 6.8k
R703 3.9k
R704 2.7k
SW720 DISC SKIP
SW715
SW714
SW713
SW707 CONTINUE
SW708 SHUFFLE
SW709 PROGRAM
SW710 REPEAT
R702 18k
R705 6.8k
R706 3.9k
R707 2.7k
R708 2.7k
SW702 DISC 1
SW703 DISC 2
SW704 DISC 3
SW705 DISC 4
SW706 DISC 5
SW711 MUSIC SCAN
SW712 PEAK SEARCH
CN401 (1/2)
C325M
R553 56
C550 220μ 16V
IC501 (1/2) M5218AP
C560 220μ 16V
IC501 (2/2) M5218AP
R563 56
IC501
PHONE AMP
[HP BOARD]
CN751 3P
RV751 1K/1K
C751 0.1μ
C752 560p
C753 560p
PHONE LEVEL
J751 HEADPHONES
C325M
C377 100μ 10V
R CH
R383 1k
C379 0.0015
R373 10k
R374 10k
C380 0.0015
R384 1k
C378 100μ 10V
L CH
C234 470μ 16V
J501
LINE OUT
R
L
C422M
D401 1N4148M
R440 1k
R441 1k
R442 10k
Q403 BA1A4M-TP
BUFFER
R501 10
CN502 3P
AU BUS
GND
T901 POWER TRANSFORMER
CN201 2P
AC IN
EXPECT E MODEL
S201 VOLTAGE SELECTOR
220-240V
110-120V
CN201 2P
AC IN
E MODEL

※ NOT REPLACEABLE : BUILT IN TRANSFORMER

• Waveforms



Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- ━━━ : B+ Line
- ▬ ▬ ▬ : B– Line
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- Voltages are taken with a VOM (Input Impedance 10MΩ) Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD

SECTION 4
EXPLODED VIEWS

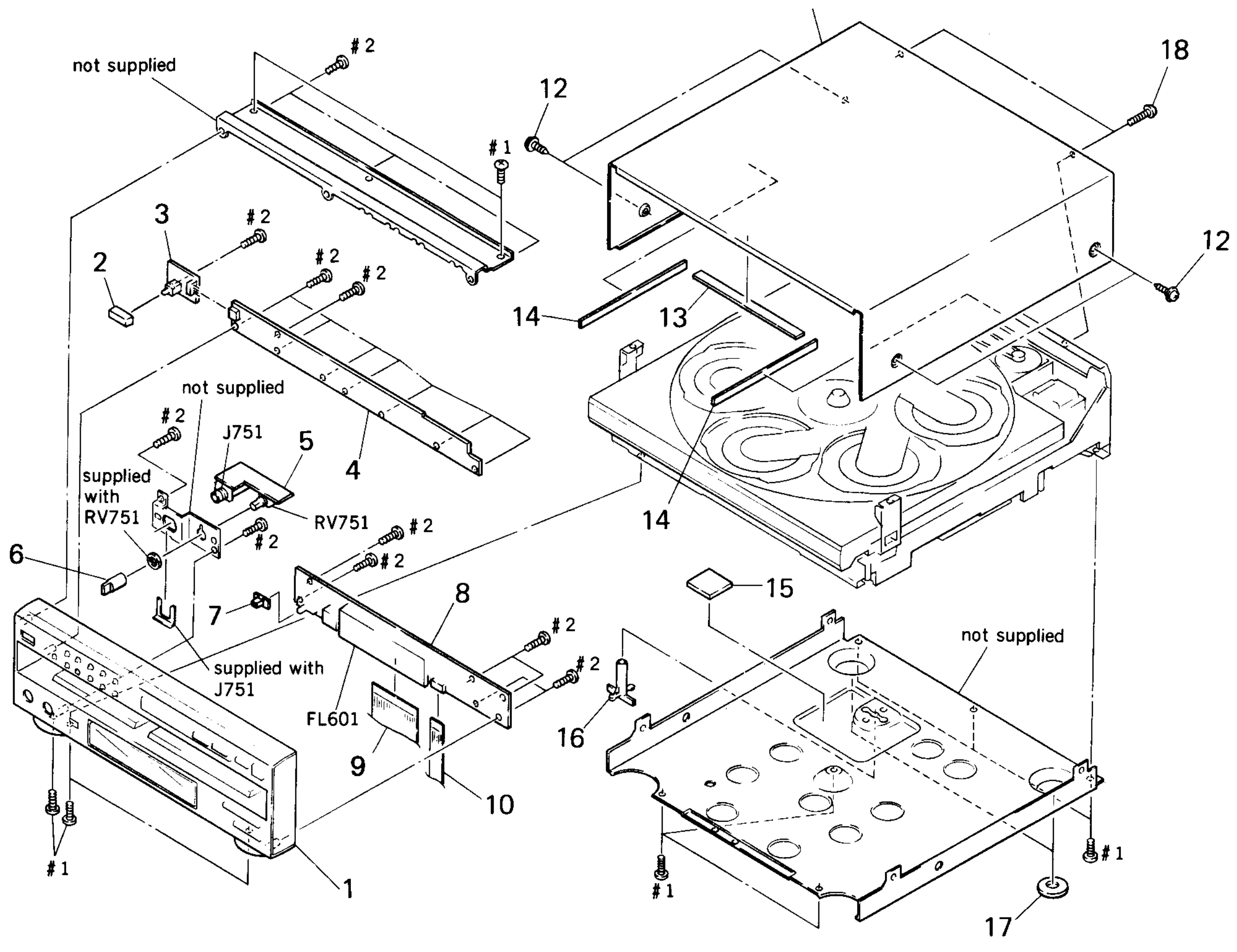
NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE)...(RED)
  ↑ Parts Color ↑ Cabinet's Color
- Hardware (# mark) list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

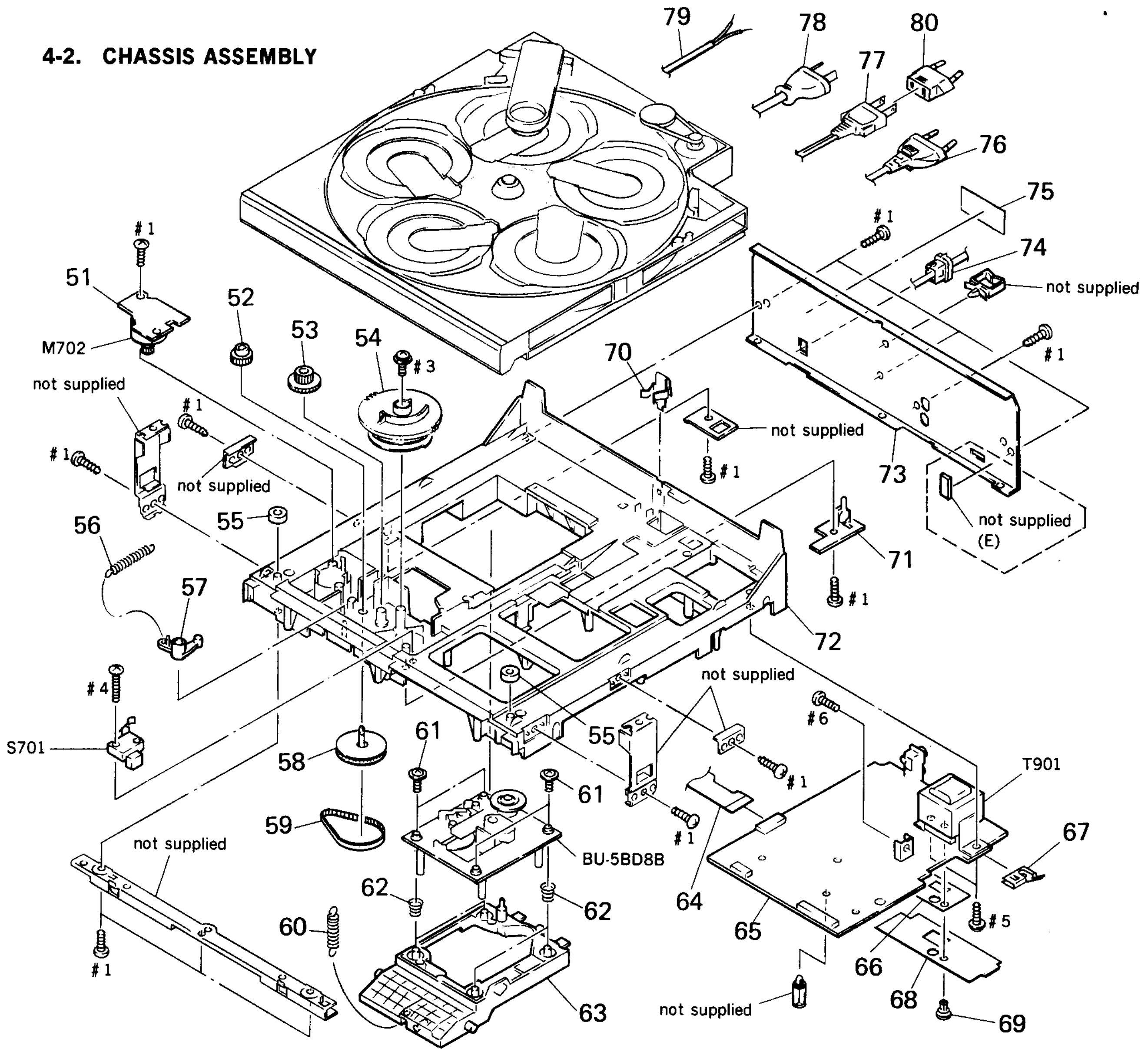
- AUS: Australian model

4-1. CABINET ASSEMBLY


not supplied
#2
11
18
12
#1
3
#2
2
#2
#2
14
13
12
not supplied
#2
J751
5
4
supplied with RV751
#2
RV751
#2
#2
14
6
8
7
15
#2
#2
not supplied
supplied with J751
16
FL601
9
10
#1
#1
#1
1
17

Ref. No.	Part No.	Description	Remark
1	X-4942-549-1	PANEL ASSY. FRONT (C325M)	
1	X-4942-550-1	PANEL ASSY. FRONT (C422M)	
2	4-951-115-01	BUTTON (POWER) (C325M)	
2	4-951-115-11	BUTTON (POWER) (C422M)	
* 3	1-643-533-11	POWER SW BOARD	
* 4	1-643-529-11	SW BOARD	
* 5	1-643-532-11	HP BOARD (C325M)	
6	4-922-531-11	KNOB (A TYPE). LOV (C325M)	
7	4-922-518-01	KNOB (TIMER) (C325M)	
* 8	1-643-530-11	DISPLAY BOARD	
9	1-690-847-11	WIRE (FLAT TYPE) (37 CORE) (C325M)	
9	1-690-848-11	WIRE (FLAT TYPE) (33 CORE) (C422M)	
10	1-690-849-11	WIRE (FLAT TYPE) (11 CORE)	
* 11	4-943-992-01	CASE (C325M)	
* 11	4-943-992-11	CASE (C422M)	
12	3-704-366-01	SCREW (CASE) (M3X8)	
* 13	4-929-557-01	CUSHION (PANEL)	
* 14	4-929-561-01	CUSHION (CASE) (C325M)	
* 15	4-951-946-01	SHEET	
16	4-937-945-01	PLATE (TRANSPORT). LOCK	
17	4-924-410-01	FELT	
18	3-703-685-21	SCREW (+BV 3X8)	
FL601	1-519-721-11	INDICATOR TUBE. FLUORESCENT	
J751	1-691-878-11	JACK (LARGE TYPE) (HEAD PHONES) (C325M)	
RV751	1-241-031-11	RES. VAR. CARBON 1K/1K (PHONE LEVEL) (C325M)	

4-2. CHASSIS ASSEMBLY


79
78
80
77
76
75
#1
74
not supplied
51
52
53
54
#3
M702
70
not supplied
#1
not supplied
#1
not supplied
#1
not supplied
#1
73
56
55
71
not supplied (E)
57
#1
72
#4
not supplied
#6
S701
58
61
55
61
#1
T901
59
BU-5BD8B
#1
not supplied
67
62
62
64
65
60
#5
#1
66
not supplied
63
68
69

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
* 51	1-638-730-11	LOARDING MOTOR BOARD	
52	4-934-375-01	GEAR (LOADING B)	
53	4-934-381-01	GEAR (LOADING C)	
54	4-934-391-01	GEAR (LOADING A)	
* 55	4-951-619-01	CUSHION (A)	
56	4-924-412-01	SPRING (B). TENSION	
57	4-917-519-01	LEVER. SET	
58	X-4941-529-1	PULLEY ASSY	
59	4-944-490-01	BELT (TIMING)	
60	4-937-911-01	SPRING. TENSION	
61	4-933-134-01	SCREW (+PTPWH M2.6X6)	
62	4-949-385-01	SPRING (D). COIL	
* 63	4-934-373-01	BRACKET (BU)	
64	1-694-003-11	JAMPER. FILM (WITH TARMINAL)	
* 65	A-4649-200-A	MAIN BOARD. COMPLETE (C422M:AEP.UK.AUS)	
* 65	A-4649-208-A	MAIN BOARD. COMPLETE (C422M:E)	
* 65	A-4649-209-A	MAIN BOARD. COMPLETE (C325M:AEP.UK.AUS)	
* 65	A-4649-213-A	MAIN BOARD. COMPLETE (C325M:E)	
* 66	4-951-933-01	SHEET. INSULATING (C325M:AEP.UK.AUS)	
* 67	4-944-581-01	PLATE. GROUND	
* 68	4-944-178-01	SHEET (INSULATING)	
69	3-531-576-11	RIVET	
* 70	4-943-996-01	SPRING. LEAF	
* 71	1-638-731-11	OPEN/UP SW BOARD	
* 72	4-943-997-01	CHASSIS	
* 73	4-949-862-01	PANEL. BACK (C325M:AEP)	
* 73	4-949-862-11	PANEL. BACK (C325M:UK.AUS)	
* 73	4-949-862-21	PANEL. BACK (C325M:E)	
* 73	4-949-862-31	PANEL. BACK (C422M:AEP)	
* 73	4-949-862-41	PANEL. BACK (C422M:UK.AUS)	
* 73	4-949-862-51	PANEL. BACK (C422M:E)	
* 74	3-703-244-00	BUSHING (2104). CORD (AEP.UK.AUS)	
* 74	3-703-571-11	BUSHING (S) (4516). CORD (E)	
* 75	4-941-548-01	LABEL. CLASS 1	
⚠76	1-575-651-21	CORD. POWER (AEP)	
⚠77	1-575-653-21	CORD. POWER (E)	
⚠78	1-574-358-11	CORD. POWER (WITH CONNECTOR) (C422M:AUS)	
⚠78	1-574-358-31	CORD. POWER (WITH CONNECTOR) (C325M:AUS)	
⚠79	1-558-946-21	CORD. POWER (C325M:UK)	
⚠79	1-590-379-11	CORD. POWER (C422M:UK)	
⚠80	1-569-007-11	ADAPTER. CONVERSION 2P (C325M:E)	
M702	A-4604-834-A	MOTOR ASSY. LOADING	
S701	1-572-713-11	SWITCH. PUSH (WITH CONNECTOR) (DOWN)	
⚠T901	1-449-955-11	TRANSFORMER. POWER (EXCEPT E)	
⚠T901	1-449-956-11	TRANSFORMER. POWER (E)	

4-3. TRAY

Ref. No.	Part No.
101	4-926-38
* 102	4-926-38
* 103	4-949-22
* 104	4-930-50
105	4-926-39
* 106	1-452-53
* 107	4-926-38
108	4-923-59

75
74
not supplied
#1
supplied
T901
67
69
otted line

Remark

UK, AUS)
(E)

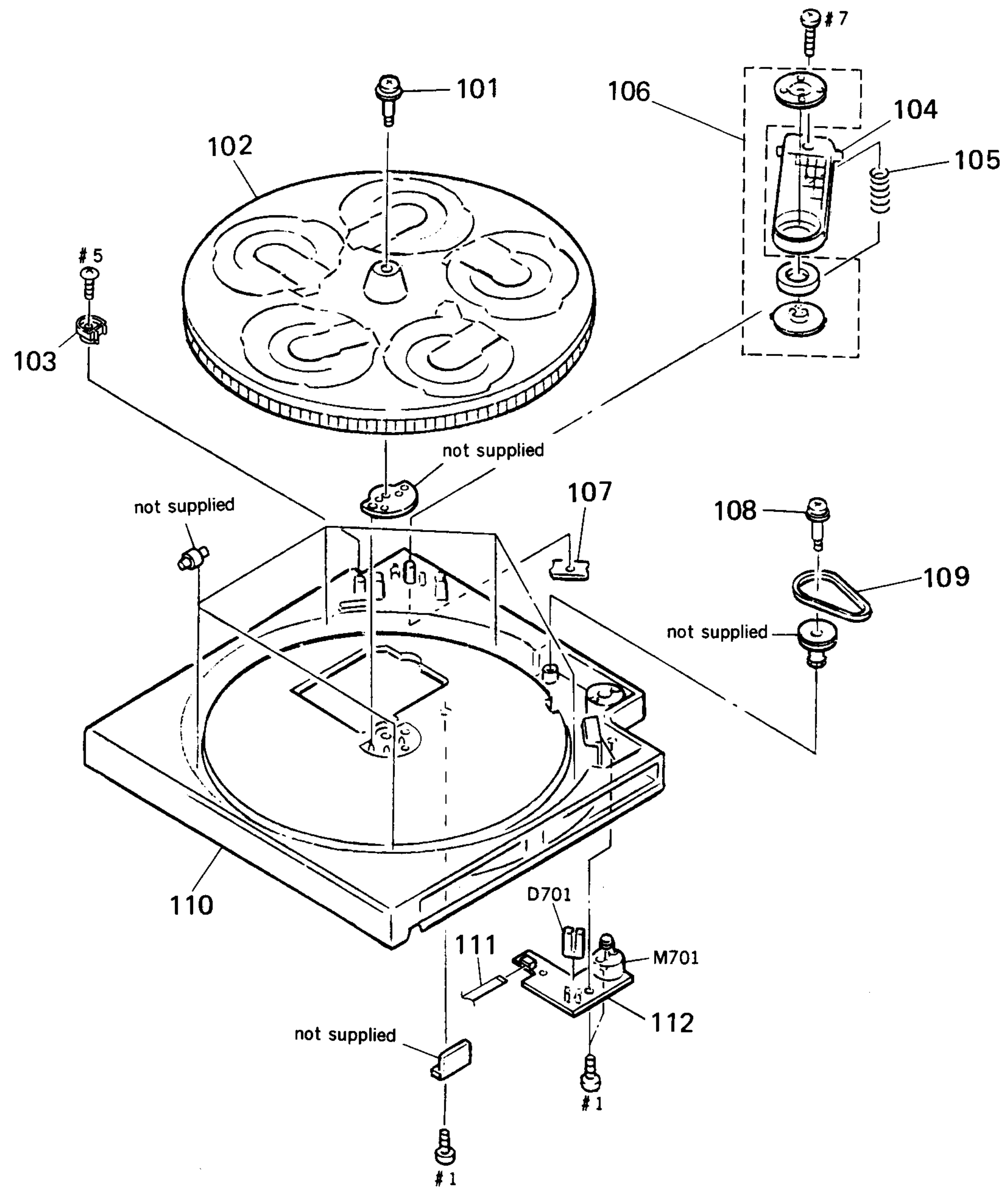
OR) (C422M:AUS)
OR) (C325M:AUS)

325M:E)

TOR) (DOWN)

T E)

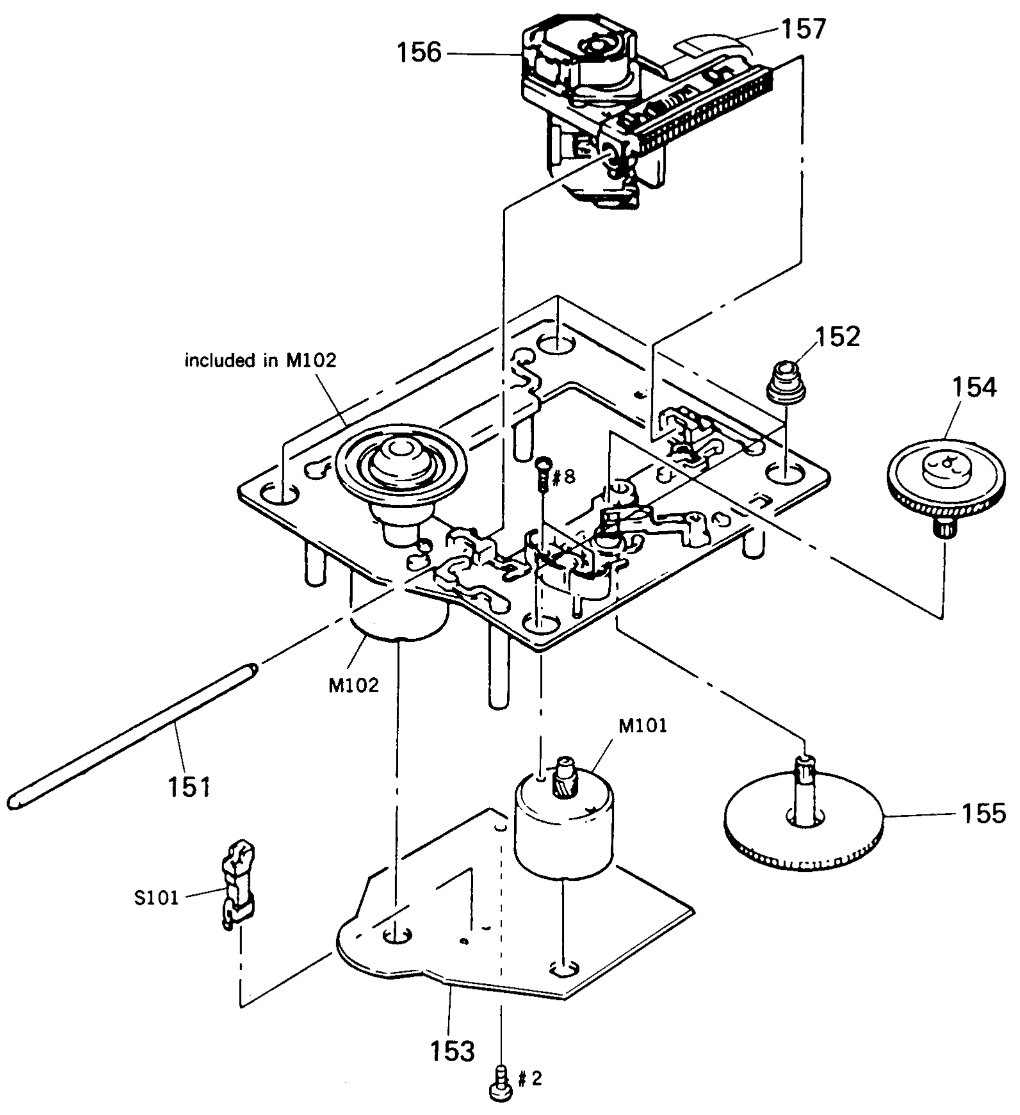
4-3. TRAY ASSEMBLY


#7
101
106
104
105
102
#5
103
not supplied
107
108
109
not supplied
not supplied
110
D701
111
M701
112
not supplied
#1
#1

Ref. No.	Part No.	Description	Remark
101	4-926-384-01	SCREW, STEP	
* 102	4-926-383-01	TABLE (B), DISK	
* 103	4-949-226-01	PLATE, LOCK	
* 104	4-930-506-02	BRACKET (PRESS PULLEY)	
105	4-926-395-01	SPRING, COMPRESSION	
* 106	1-452-538-11	MAGNET	
* 107	4-926-388-01	BRACKET (ADJUSTMENT)	
108	4-923-597-01	SCREW, STEP	

Ref. No.	Part No.	Description	Remark
109	4-926-399-01	BELT	
110	4-951-121-01	TABLE (A), DISK (C325M)	
* 110	4-951-121-11	TABLE (A), DISK (C422M)	
111	1-590-849-11	WIRE, FLAT TYPE (5 CORE)	
* 112	1-638-729-11	TABLE MOTOR BOARD	
D701	8-719-970-19	DIODE GP1A521	
M701	A-4604-585-A	MOTOR ASSY, ROTARY	

4-4. OPTICAL PICK-UP BLOCK (BU-5BD8)


156
157
included in M102
152
154
#8
M102
151
M101
155
S101
153
#2

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
151	4-917-565-01	SHAFT, SLED	
152	4-951-940-01	INSULATOR (BU)	
* 153	A-4649-199-A	BD BOARD, COMPLETE	
154	4-917-567-01	GEAR (M)	
155	4-917-564-01	GEAR (P), FLATNESS	

Ref. No.	Part No.	Description	Remark
⚠156	8-848-144-11	DEVICE, OPTICAL KSS-240A	
157	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
M101	X-4917-504-1	MOTOR ASSY, SLED	
M102	X-4917-523-3	MOTOR ASSY, SPINDLE	
S101	1-572-085-11	SWITCH, LEAF (LIMIT)	

SECTION 5
ELECTRICAL PARTS LIST

BD **DISPLAY**
POWER SW **SW**

NOTE :

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS
  uF : μF
- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE : Metal Oxide-film resistor
  F : nonflammable
- COILS
  uH : μH
- SEMICONDUCTORS
  In each case, u : μ, for example :
  uA... : μA..., uPA... : μPA...,
  uPB... : μPB..., uPC... : μPC...,
  uPD... : μPD....

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- AUS : Australian Model

Ref. No.	Part No.	Description			Remark
*	A-4649-199-A	BD BOARD, COMPLETE ******************			
		< CAPACITOR >			
C101	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C102	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C103	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C104	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C105	1-135-155-21	TANTALUM CHIP	4.7uF	10%	16V
C106	1-164-346-11	CERAMIC CHIP	1uF		16V
C107	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C108	1-164-346-11	CERAMIC CHIP	1uF		16V
C112	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C151	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C152	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C153	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C154	1-164-336-11	CERAMIC CHIP	0.33uF		25V
C155	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C156	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C157	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C158	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C159	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C160	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C181	1-163-038-00	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
CN101	1-568-861-11	SOCKET, CONNECTOR 18P			
CN102	1-568-795-11	SOCKET, CONNECTOR 12P			
		< IC >			
IC101	8-752-344-48	IC CXD2501Q			
IC102	8-759-071-79	IC BA6297AFP			
		< RESISTOR >			
R101	1-216-077-00	METAL CHIP	15K	5%	1/10W
R102	1-216-097-00	METAL CHIP	100K	5%	1/10W
R103	1-216-077-00	METAL CHIP	15K	5%	1/10W
R104	1-216-085-00	METAL CHIP	33K	5%	1/10W
R105	1-216-097-00	METAL CHIP	100K	5%	1/10W
R112	1-216-049-00	METAL CHIP	1K	5%	1/10W
R113	1-216-077-00	METAL CHIP	15K	5%	1/10W
R114	1-216-077-00	METAL CHIP	15K	5%	1/10W
R117	1-216-077-00	METAL CHIP	15K	5%	1/10W
R118	1-216-077-00	METAL CHIP	15K	5%	1/10W
R121	1-216-077-00	METAL CHIP	15K	5%	1/10W
R122	1-216-077-00	METAL CHIP	15K	5%	1/10W
R151	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R152	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R153	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R154	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R155	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R156	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R157	1-216-085-00	METAL CHIP	33K	5%	1/10W
R158	1-216-076-00	METAL CHIP	13K	5%	1/10W
R159	1-216-085-00	METAL CHIP	33K	5%	1/10W
R160	1-216-081-00	METAL CHIP	22K	5%	1/10W
R161	1-216-093-00	METAL CHIP	68K	5%	1/10W
R162	1-216-085-00	METAL CHIP	33K	5%	1/10W
R163	1-216-308-00	METAL CHIP	4.7	5%	1/10W
		< SWITCH >			
S101	1-572-085-11	SWITCH, LEAF (LIMIT)			
**					
*	1-643-530-11	DISPLAY BOARD *************			
*	1-643-533-11	POWER SW BOARD **************			
*	1-643-529-11	SW BOARD ********			
		< CONNECTOR >			
* CN601	1-691-901-11	SOCKET, CONNECTOR (L TYPE) 33P (C422M)			
* CN601	1-691-902-11	SOCKET, CONNECTOR (L TYPE) 37P (C325M)			
* CN602	1-691-889-11	SOCKET, CONNECTOR (L TYPE) 11P			
* CN604	1-568-941-11	PIN, CONNECTOR 3P (C325M)			
* CN701	1-565-295-11	PLUG, CONNECTOR 4P			
* CN702	1-565-480-11	CONNECTOR, BOARD TO BOARD 4P			
* CN703	1-568-947-11	PIN, CONNECTOR 9P			

DISPLAY POWER SW SW HP LOADING MOTOR OPEN/UP SW TABLE MOTOR

Ref. No.	Part No.	Description				Remark
		< IC >				
IC601	8-741-100-48	IC SBX1610-59 (C325M)				
		< FLUORESCENT INDICATOR >				
FL601	1-519-721-11	INDICATOR TUBE, FLUORESCENT				
		< RESISTOR >				
R601	1-249-427-11	CARBON	6.8K	5%	1/4W	
R602	1-249-422-11	CARBON	2.7K	5%	1/4W	
R603	1-249-424-11	CARBON	3.9K	5%	1/4W	
R701	1-249-427-11	CARBON	6.8K	5%	1/4W	
R702	1-249-432-11	CARBON	18K	5%	1/4W	
R703	1-249-424-11	CARBON	3.9K	5%	1/4W	
R704	1-249-422-11	CARBON	2.7K	5%	1/4W	
R705	1-249-427-11	CARBON	6.8K	5%	1/4W	
R706	1-249-424-11	CARBON	3.9K	5%	1/4W	
R707	1-249-422-11	CARBON	2.7K	5%	1/4W	
R708	1-249-422-11	CARBON	2.7K	5%	1/4W	
R709	1-249-422-11	CARBON	2.7K	5%	1/4W	
R710	1-249-424-11	CARBON	3.9K	5%	1/4W	
R711	1-249-427-11	CARBON	6.8K	5%	1/4W	
R712	1-249-422-11	CARBON	2.7K	5%	1/4W	
R713	1-249-424-11	CARBON	3.9K	5%	1/4W	
R714	1-249-427-11	CARBON	6.8K	5%	1/4W	
R715	1-249-432-11	CARBON	18K	5%	1/4W	
R716	1-249-432-11	CARBON	18K	5%	1/4W	
		< SWITCH >				
SW603	1-570-157-51	SWITCH, SLIDE (TIMER) (C325M)				
SW604	1-554-303-21	SWITCH, TACTILE (TIME)				
SW605	1-554-303-21	SWITCH, TACTILE (FADER)				
SW606	1-554-303-21	SWITCH, TACTILE (EDIT/TIME FADE)				
SW607	1-554-303-21	SWITCH, TACTILE (CHECK)				
SW608	1-554-303-21	SWITCH, TACTILE (CLEAR)				
SW701	1-572-714-11	SWITCH, PUSH (POWER)				
SW702	1-554-303-21	SWITCH, TACTILE (DISC 1)				
SW703	1-554-303-21	SWITCH, TACTILE (DISC 2)				
SW704	1-554-303-21	SWITCH, TACTILE (DISC 3)				
SW705	1-554-303-21	SWITCH, TACTILE (DISC 4)				
SW706	1-554-303-21	SWITCH, TACTILE (DISC 5)				
SW707	1-554-303-21	SWITCH, TACTILE (CONTINUE)				
SW708	1-554-303-21	SWITCH, TACTILE (SHUFFLE)				
SW709	1-554-303-21	SWITCH, TACTILE (PROGRAM)				
SW710	1-554-303-21	SWITCH, TACTILE (REPEAT)				
SW711	1-554-303-21	SWITCH, TACTILE (MUSIC SCAN)				
SW712	1-554-303-21	SWITCH, TACTILE (PEAK SEARCH)				
SW713	1-554-303-21	SWITCH, TACTILE (▷)				
SW714	1-554-303-21	SWITCH, TACTILE (▯▯)				
SW715	1-554-303-21	SWITCH, TACTILE (■)				
SW716	1-554-303-21	SWITCH, TACTILE (⏮)				
SW717	1-554-303-21	SWITCH, TACTILE (⏭)				
SW718	1-554-303-21	SWITCH, TACTILE (◀◀)				
SW719	1-554-303-21	SWITCH, TACTILE (▶▶)				
SW720	1-554-303-21	SWITCH, TACTILE (DISC SKIP)				
SW721	1-554-303-21	SWITCH, TACTILE (⏏OPEN/CLOSE)				

****

Ref. No.	Part No.	Description				Remark
*	1-643-532-11	HP BOARD (C325M) ****************				
		< CAPACITOR >				
C751	1-164-159-11	CERAMIC (C325M)	0.1uF		50V	
C752	1-162-291-31	CERAMIC (C325M)	560PF	10%	50V	
C753	1-162-291-31	CERAMIC (C325M)	560PF	10%	50V	
		< JACK >				
J751	1-691-878-11	JACK (LARGE TYPE) (HEADPHONES) (C325M)				
		< VARIABLE RESISTOR >				
RV751	1-241-031-11	RES, VAR, CARBON 1K/1K (PHONE LEVEL) (C325M)				

****

Ref. No.	Part No.	Description				Remark
*	1-638-730-11	LOADING MOTOR BOARD *******************				
*	1-638-731-11	OPEN/UP SW BOARD ****************				
*	1-638-729-11	TABLE MOTOR BOARD *****************				
		< CAPACITOR >				
C704	1-161-375-00	CERAMIC	0.0022uF	20%	50V	
C705	1-161-375-00	CERAMIC	0.0022uF	20%	50V	
		< CONNECTOR >				
* CN705	1-573-383-11	PIN, CONNECTOR (PC BOARD) 2P				
* CN707	1-573-044-11	SOCKET, CONNECTOR 5P				
		< DIODE >				
D701	8-719-970-19	DIODE GP1A521				
		< RESISTOR >				
R701	1-249-416-11	CARBON	820	5%	1/4W	

Ref. No.	Part No.	Description			Remark
		< SWITCH >			
S702	1-571-300-21	SWITCH, ROTARY (OPEN/UP)			
************	************************	************************			************
*	A-4649-200-A	MAIN BOARD, COMPLETE (C422M:AEP,UK,AUS)			
*	A-4649-208-A	MAIN BOARD, COMPLETE (C422M:E)			
*	A-4649-209-A	MAIN BOARD, COMPLETE (C325M:AEP,UK,AUS)			
*	A-4649-213-A	MAIN BOARD, COMPLETE (C325M:E)			
		**			
	7-682-548-04	SCREW +BVTT 3X8 (S)			
		< CAPACITOR >			
C201	1-124-572-11	ELECT	100uF	20%	63V
C202	1-126-059-11	ELECT	10uF	20%	50V
C203	1-124-360-00	ELECT	1000uF	20%	16V
C204	1-124-887-00	ELECT	3300uF	20%	16V
C205	1-126-163-11	ELECT	4.7uF	20%	50V
C206	1-126-163-11	ELECT	4.7uF	20%	50V
C207	1-124-910-11	ELECT	47uF	20%	50V
C209	1-124-997-11	ELECT	470uF	20%	10V
C210	1-126-024-11	ELECT	220uF	20%	16V
C221	1-161-494-00	CERAMIC	0.022uF		25V
C230	1-126-049-11	ELECT	22uF	20%	25V
C231	1-124-994-11	ELECT	100uF	20%	10V
C232	1-124-994-11	ELECT	100uF	20%	10V
C233	1-126-012-11	ELECT	470uF	20%	16V
C234	1-126-012-11	ELECT	470uF	20%	16V
C301	1-126-022-11	ELECT	47uF	20%	16V
C302	1-161-494-00	CERAMIC	0.022uF		25V
C303	1-161-494-00	CERAMIC	0.022uF		25V
C304	1-164-159-11	CERAMIC	0.1uF		50V
C311	1-130-491-00	MYLAR	0.047uF	5%	50V
C312	1-161-374-11	CERAMIC	0.0015uF	20%	50V
C313	1-161-494-00	CERAMIC	0.022uF		25V
C314	1-162-306-11	CERAMIC	0.01uF	20%	16V
C315	1-126-300-11	ELECT	0.47uF	20%	50V
C316	1-161-494-00	CERAMIC	0.022uF		25V
C319	1-162-282-31	CERAMIC	100PF	10%	50V
C320	1-130-483-00	MYLAR	0.01uF	5%	50V
C322	1-164-159-11	CERAMIC	0.1uF		50V
C331	1-162-208-31	CERAMIC	24PF	5%	50V
C336	1-126-022-11	ELECT	47uF	20%	16V
C337	1-161-494-00	CERAMIC	0.022uF		25V
C342	1-126-022-11	ELECT	47uF	20%	16V
C343	1-161-494-00	CERAMIC	0.022uF		25V
C349	1-161-494-00	CERAMIC	0.022uF		25V
C350	1-126-022-11	ELECT	47uF	20%	16V
C351	1-161-494-00	CERAMIC	0.022uF		25V
C353	1-162-205-31	CERAMIC	18PF	5%	50V
C354	1-162-205-31	CERAMIC	18PF	5%	50V
C355	1-161-494-00	CERAMIC	0.022uF		25V
C356	1-126-022-11	ELECT	47uF	20%	16V
C357	1-124-997-11	ELECT	470uF	20%	10V
C358	1-161-494-00	CERAMIC	0.022uF		25V
C361	1-162-280-31	CERAMIC	82PF	10%	50V
C363	1-162-213-31	CERAMIC	39PF	5%	50V
C364	1-162-213-31	CERAMIC	39PF	5%	50V
C365	1-162-213-31	CERAMIC	39PF	5%	50V
C366	1-162-213-31	CERAMIC	39PF	5%	50V
C367	1-162-280-31	CERAMIC	82PF	10%	50V
C371	1-130-479-00	MYLAR	0.0047uF	5%	50V
C372	1-130-479-00	MYLAR	0.0047uF	5%	50V
C373	1-130-472-00	MYLAR	0.0012uF	5%	50V
C374	1-130-472-00	MYLAR	0.0012uF	5%	50V
C375	1-124-994-11	ELECT	100uF	20%	10V
C376	1-124-994-11	ELECT	100uF	20%	10V
C377	1-124-994-11	ELECT	100uF	20%	10V
C378	1-124-994-11	ELECT	100uF	20%	10V
C379	1-130-473-00	MYLAR	0.0015uF	5%	50V
C380	1-130-473-00	MYLAR	0.0015uF	5%	50V
C384	1-126-022-11	ELECT	47uF	20%	16V
C385	1-126-022-11	ELECT	47uF	20%	16V
C390	1-161-494-00	CERAMIC	0.022uF		25V
C391	1-124-997-11	ELECT	470uF	20%	10V
C392	1-164-159-11	CERAMIC	0.1uF		50V
C393	1-164-159-11	CERAMIC	0.1uF		50V
C394	1-164-159-11	CERAMIC	0.1uF		50V
C401	1-126-022-11	ELECT	47uF	20%	16V
C402	1-161-494-00	CERAMIC	0.022uF		25V
C403	1-126-023-11	ELECT	100uF	20%	16V
C404	1-126-023-11	ELECT	100uF	20%	16V
C408	1-164-159-11	CERAMIC	0.1uF		50V
C409	1-164-159-11	CERAMIC	0.1uF		50V
C414	1-161-494-00	CERAMIC	0.022uF		25V
C425	1-162-294-31	CERAMIC	0.001uF	10%	50V
C426	1-162-294-31	CERAMIC	0.001uF	10%	50V
C429	1-162-294-31	CERAMIC	0.001uF	10%	50V
C430	1-162-294-31	CERAMIC	0.001uF	10%	50V
C431	1-162-294-31	CERAMIC	0.001uF	10%	50V
C432	1-162-294-31	CERAMIC	0.001uF	10%	50V
C550	1-126-024-11	ELECT (C325M)	220uF	20%	16V
C560	1-126-024-11	ELECT (C325M)	220uF	20%	16V
		< CONNECTOR >			
* CN201	1-573-047-11	PIN, CONNECTOR (PC BOARD) 2P			

MAIN

Ref. No.	Part No.	Description	Remark
* CN301	1-691-895-11	SOCKET, CONNECTOR (L TYPE) 18P	
* CN401	1-691-901-11	SOCKET, CONNECTOR (L TYPE) 33P	(C422M)
* CN401	1-691-902-11	SOCKET, CONNECTOR (L TYPE) 37P	(C325M)
* CN402	1-691-889-11	SOCKET, CONNECTOR (L TYPE) 11P	
* CN403	1-568-824-11	SOCKET, CONNECTOR 5P	
* CN404	1-568-943-11	PIN, CONNECTOR 5P	
* CN502	1-565-561-11	PIN, CONNECTOR 3P (AU BUS)	(C422M)
		< DIODE >	
D201	8-719-200-82	DIODE 11ES2	
D202	8-719-110-08	DIODE RD8.2ES-B2	
D203	8-719-200-82	DIODE 11ES2	
D204	8-719-200-82	DIODE 11ES2	
D205	8-719-200-82	DIODE 11ES2	
D206	8-719-200-82	DIODE 11ES2	
D207	8-719-200-82	DIODE 11ES2	
D208	8-719-200-82	DIODE 11ES2	
D385	8-719-987-63	DIODE 1N4148M	
D401	8-719-987-63	DIODE 1N4148M	(C422M)
		< IC >	
IC201	8-759-633-42	IC M5293L	
IC202	8-759-061-65	IC LA5602	
IC204	8-759-604-86	IC M5F7807L	
IC301	8-752-337-26	IC CXD2500AQ	
IC302	8-752-342-65	IC CXD2560M	
IC303	8-752-351-19	IC CXD2561BM	
IC306	8-759-061-66	IC LA9215	
IC401	8-752-837-03	IC CXP50120-020Q	(C422M)
IC401	8-752-837-01	IC CXP50116-287Q	(C325M)
IC402	8-759-821-32	IC CXA1291P	
IC501	8-759-634-51	IC M5218AP	(C325M)
		< JACK >	
J501	1-569-442-11	JACK, PIN 2P (LINE OUT)	
		< COIL >	
L301	1-412-473-21	INDUCTOR 0uH	
L302	1-412-473-21	INDUCTOR 0uH	
L303	1-412-473-21	INDUCTOR 0uH	
L305	1-412-473-21	INDUCTOR 0uH	
L306	1-412-297-11	INDUCTOR 3.3uH	
L309	1-412-473-21	INDUCTOR 0uH	
L310	1-412-473-21	INDUCTOR 0uH	
L311	1-412-473-21	INDUCTOR 0uH	
L331	1-412-297-11	INDUCTOR 3.3uH	

Ref. No.	Part No.	Description	Remark
		< TRANSISTOR >	
Q201	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q302	8-729-900-80	TRANSISTOR DTC114ES	
Q303	8-729-900-89	TRANSISTOR DTC144ES	
Q304	8-729-900-61	TRANSISTOR DTA114ES	
Q305	8-729-900-61	TRANSISTOR DTA114ES	
Q401	8-729-900-89	TRANSISTOR DTC144ES	
Q403	8-729-900-80	TRANSISTOR DTC114ES	(C422M)
		< RESISTOR >	
R201	1-249-435-11	CARBON 33K 5% 1/4W	
R202	1-249-438-11	CARBON 56K 5% 1/4W	
R203	1-249-429-11	CARBON 10K 5% 1/4W	
R301	1-249-417-11	CARBON 1K 5% 1/4W	
R302	1-249-417-11	CARBON 1K 5% 1/4W	
R303	1-249-417-11	CARBON 1K 5% 1/4W	
R304	1-249-417-11	CARBON 1K 5% 1/4W	
R306	1-249-413-11	CARBON 470 5% 1/4W	
R309	1-249-405-11	CARBON 100 5% 1/4W	
R311	1-249-423-11	CARBON 3.3K 5% 1/4W	
R312	1-249-429-11	CARBON 10K 5% 1/4W	
R313	1-249-423-11	CARBON 3.3K 5% 1/4W	
R314	1-249-429-11	CARBON 10K 5% 1/4W	
R315	1-249-417-11	CARBON 1K 5% 1/4W	
R316	1-249-417-11	CARBON 1K 5% 1/4W	
R317	1-249-419-11	CARBON 1.5K 5% 1/4W	
R318	1-249-441-11	CARBON 100K 5% 1/4W	
R319	1-247-903-00	CARBON 1M 5% 1/4W	
R321	1-249-417-11	CARBON 1K 5% 1/4W	
R322	1-249-417-11	CARBON 1K 5% 1/4W	
R323	1-249-417-11	CARBON 1K 5% 1/4W	
R324	1-249-417-11	CARBON 1K 5% 1/4W	
R330	1-249-417-11	CARBON 1K 5% 1/4W	
R331	1-249-417-11	CARBON 1K 5% 1/4W	
R342	1-249-417-11	CARBON 1K 5% 1/4W	
R351	1-249-436-11	CARBON 39K 5% 1/4W	
R352	1-249-436-11	CARBON 39K 5% 1/4W	
R353	1-249-436-11	CARBON 39K 5% 1/4W	
R354	1-249-436-11	CARBON 39K 5% 1/4W	
R355	1-249-436-11	CARBON 39K 5% 1/4W	
R356	1-249-436-11	CARBON 39K 5% 1/4W	
R357	1-249-436-11	CARBON 39K 5% 1/4W	
R358	1-249-436-11	CARBON 39K 5% 1/4W	
R359	1-247-903-00	CARBON 1M 5% 1/4W	
R361	1-249-431-11	CARBON 15K 5% 1/4W	
R362	1-249-431-11	CARBON 15K 5% 1/4W	
R363	1-249-431-11	CARBON 15K 5% 1/4W	
R364	1-249-431-11	CARBON 15K 5% 1/4W	

MAIN

Ref. No.	Part No.	Description	Remark
R365	1-249-438-11	CARBON 56K 5% 1/4W	
R366	1-249-438-11	CARBON 56K 5% 1/4W	
R367	1-249-438-11	CARBON 56K 5% 1/4W	
R368	1-249-438-11	CARBON 56K 5% 1/4W	
R369	1-249-419-11	CARBON 1.5K 5% 1/4W	
R370	1-249-419-11	CARBON 1.5K 5% 1/4W	
R371	1-249-419-11	CARBON 1.5K 5% 1/4W	
R372	1-249-419-11	CARBON 1.5K 5% 1/4W	
R373	1-249-429-11	CARBON 10K 5% 1/4W	
R374	1-249-429-11	CARBON 10K 5% 1/4W	
R375	1-249-429-11	CARBON 10K 5% 1/4W	
R376	1-249-429-11	CARBON 10K 5% 1/4W	
R383	1-249-417-11	CARBON 1K 5% 1/4W	
R384	1-249-417-11	CARBON 1K 5% 1/4W	
R385	1-249-422-11	CARBON 2.7K 5% 1/4W	
R401	1-249-433-11	CARBON 22K 5% 1/4W	
R402	1-249-433-11	CARBON 22K 5% 1/4W	
R403	1-249-425-11	CARBON 4.7K 5% 1/4W	
R404	1-249-425-11	CARBON 4.7K 5% 1/4W	
R405	1-249-425-11	CARBON 4.7K 5% 1/4W	
R406	1-249-425-11	CARBON 4.7K 5% 1/4W	
R408	1-249-441-11	CARBON 100K 5% 1/4W	
R409	1-247-864-11	CARBON 24K 5% 1/4W	
R410	1-247-880-11	CARBON 110K 5% 1/4W	
R411	1-249-440-11	CARBON 82K 5% 1/4W	
R412	1-247-876-11	CARBON 75K 5% 1/4W	
R413	1-249-440-11	CARBON 82K 5% 1/4W	
R414	1-247-874-11	CARBON 62K 5% 1/4W	
R415	1-249-435-11	CARBON 33K 5% 1/4W	
R416	1-247-878-00	CARBON 91K 5% 1/4W	
R421	1-249-393-11	CARBON 10 5% 1/4W	
R422	1-249-393-11	CARBON 10 5% 1/4W	
R425	1-249-429-11	CARBON 10K 5% 1/4W	
R426	1-249-429-11	CARBON 10K 5% 1/4W	
R427	1-249-429-11	CARBON 10K 5% 1/4W	
R428	1-249-429-11	CARBON 10K 5% 1/4W	
R429	1-249-429-11	CARBON 10K 5% 1/4W	
R430	1-249-429-11	CARBON 10K 5% 1/4W	
R431	1-249-429-11	CARBON 10K 5% 1/4W	
R432	1-249-429-11	CARBON 10K 5% 1/4W	
R440	1-249-417-11	CARBON 1K 5% 1/4W	(C422M)
R441	1-249-417-11	CARBON 1K 5% 1/4W	(C422M)
R442	1-249-429-11	CARBON 10K 5% 1/4W	(C422M)
R501	1-249-393-11	CARBON 10 5% 1/4W	(C422M)
R553	1-249-402-11	CARBON 56 5% 1/4W	(C325M)
R563	1-249-402-11	CARBON 56 5% 1/4W	(C325M)

Ref. No.	Part No.	Description	Remark
		< SWITCH >	
⚠S201	1-571-722-11	SWITCH, VOLTAGE SELECTION (VOLTAGE SELECTOR) (E)	
		< CRYSTAL >	
X351	1-579-314-11	VIBRATOR, CRYSTAL (22.5MHz)	

****

MISCELLANEOUS
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Ref. No.	Part No.	Description	Remark
9	1-690-847-11	WIRE (FLAT TYPE) (37 CORE) (C325M)	
9	1-690-848-11	WIRE (FLAT TYPE) (33 CORE) (C422M)	
10	1-690-849-11	WIRE (FLAT TYPE) (11 CORE)	
64	1-694-003-11	JAMPER, FILM (WITH TARMINAL)	
⚠76	1-575-651-21	CORD, POWER (AEP)	
⚠77	1-575-653-21	CORD, POWER (E)	
⚠78	1-574-358-11	CORD, POWER (WITH CONNECTOR) (C422M:AUS)	
⚠78	1-574-358-31	CORD, POWER (WITH CONNECTOR) (C325M:AUS)	
⚠79	1-558-946-21	CORD, POWER (C325M:UK)	
⚠79	1-590-379-11	CORD, POWER (C422M:UK)	
⚠80	1-569-007-11	ADAPTER, CONVERSION 2P (C325M:E)	
* 106	1-452-538-11	MAGNET	
111	1-590-849-11	WIRE, FLAT TYPE (5 CORE)	
⚠156	8-848-144-11	DEVICE, OPTICAL KSS-240A	
157	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
M101	X-4917-504-1	MOTOR ASSY, SLED	
M102	X-4917-523-3	MOTOR ASSY, SPINDLE	
M701	A-4604-585-A	MOTOR ASSY, ROTARY	
M702	A-4604-834-A	MOTOR ASSY, LOADING	
S701	1-572-713-11	SWITCH, PUSH (WITH CONNECTOR) (DOWN)	
⚠T901	1-449-955-11	TRANSFORMER, POWER (EXCEPT E)	
⚠T901	1-449-956-11	TRANSFORMER, POWER (E)	

****

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS ******************************	
	1-558-271-11	CORD, CONNECTION (C325M:AEP)	
	1-558-271-11	CORD, CONNECTION (C422M:AEP)	
	1-693-053-11	REMOTE COMMANDER (RM-D325) (C325M)	
	2-181-754-01	COVER, BATTERY (C325M)	
	3-754-847-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, PORTUGUESE)	
	3-754-847-41	MANUAL, INSTRUCTION (GERMAN, DUTCH, SWEDISH, ITALIAN) (AEP)	
*	4-944-040-01	CUSHION (FRONT)	
*	4-944-041-01	CUSHION (REAR)	
*	4-951-269-11	INDIVIDUAL CARTON (C325M)	
*	4-951-269-21	INDIVIDUAL CARTON (C422M:AEP, AUS)	

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HARDWARE LIST

#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S
#2	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S
#3	7-682-661-09	SCREW +PSW 4X8
#4	7-685-136-19	SCREW +P 2.6X12 TYPE2 NON-SLIT
#5	7-685-647-79	SCREW, TAPPING
#6	7-682-548-04	SCREW +BVTT 3X8 (S)
#7	7-682-554-04	SCREW +B 3X25
#8	7-621-255-15	SCREW +P 2X3

9-957-089-11

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Audio Group

English
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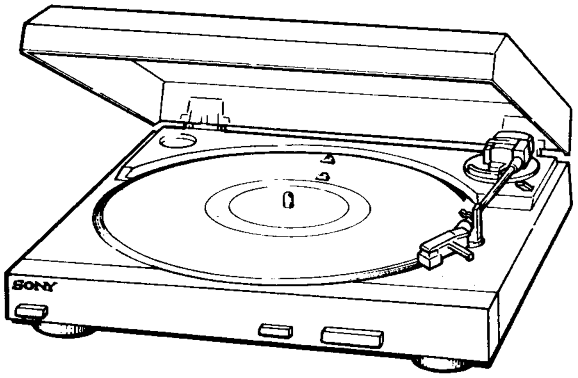
Published by Customer Relations and Service Group

PS-D707/D707P

SERVICE MANUAL

AEP Model
E Model
Tourist Model
PS-D707

UK Model
PS-D707P



PS-D707P is the STEREO TURNTABLE SYSTEM in LBT-D607CD/707CD

Photo: PS-D707

SPECIFICATIONS

Turntable	
Platter	30cm (12 in.)
Motor	DC servo motor
Drive system	Belt drive
Speed	33⅓ rpm/45 rpm switchable
Wow and flutter	0.15% (WRMS)
Signal-to-noise ratio	65 dB (DIN-B)
Automatic system	Return, reject, lead in
Tonearm	
Type	Dynamically balanced
Pivot-to-stylus length	206 mm (7 ⅞ in.)
Overall arm length	235 mm (9 ⅜ in.)
Cartridge	
Type	Moving magnet type
Frequency response	20 Hz-20kHz
Stylus	ND-155G
General	
Dimensions	355 × 93.5 × 355 mm(w/h/d) (14 × 3 ¾ × 14 inches)
Weight	Approx. 2.6 kg (4 lb 14 oz)
Power requirements	D707: AEP, Germany, Italian models 220V AC, 50/60Hz D707: Australia model 240 V AC, 50 Hz D707: E, Saudi Arabia models 110–120V, 220–240V adjustable, 50/60Hz
Power consumption	4 W
Accessory supplied	45-rpm adaptor (1)
Optional accessory	Replacement stylus ND-155G

Design and specificatins subject to change without notice.

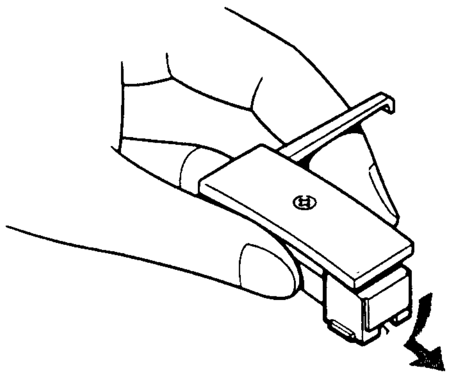
Note
This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

Note for Cartridge
Be careful not to use any cartridge except for specified one (Part No.: 4-944-756-01) as balance weight of pick up arm assy is fixed.

REPLACING THE STYLUS

Replace the stylus after about 400 hours of use because using a worn stylus will damage records.
An ND-155G replacement stylus is available at your Sony dealer.
Be sure to turn the amplifier off before proceeding with replacement.

1 While holding the cartridge, detach the stylus assembly as illustrated.
2 Insert the new stylus into the cartridge.



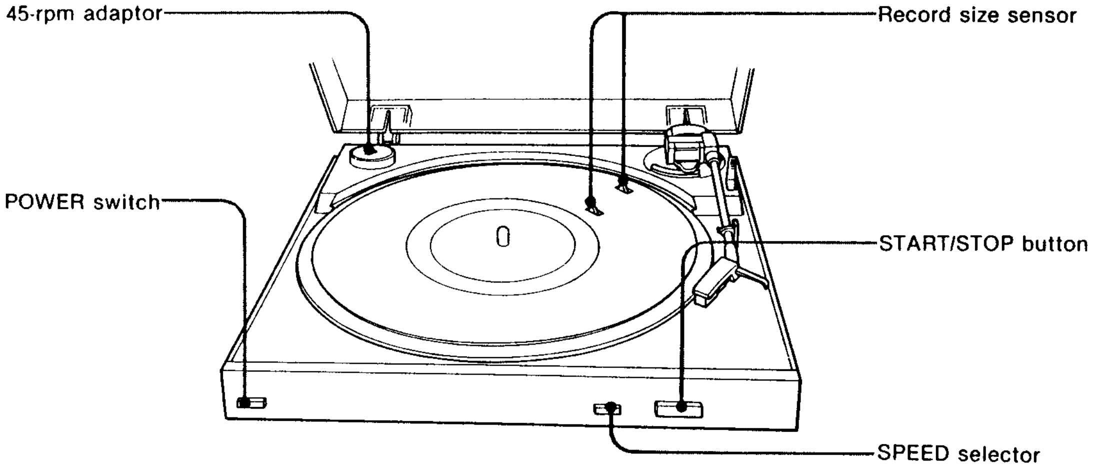
MICROFILM

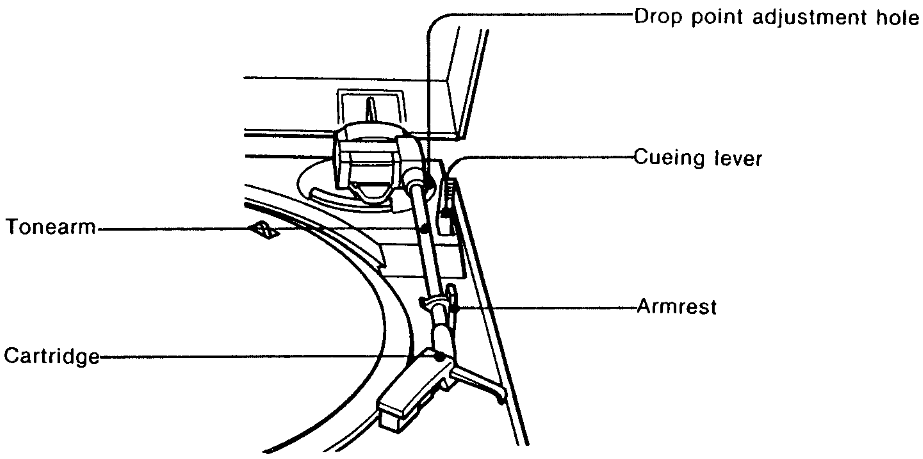
STEREO TURNTABLE SYSTEM

SONY®

SECTION 1
GENERAL

1-1. LOCATION OF CONTROLS

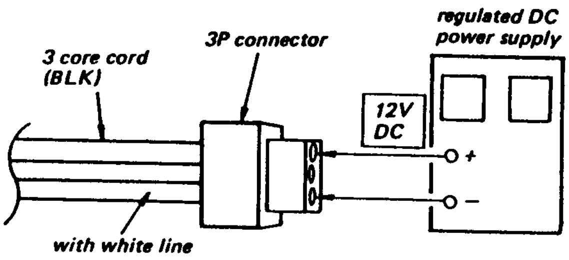

45-rpm adaptor
Record size sensor
POWER switch
START/STOP button
SPEED selector


Drop point adjustment hole
Cueing lever
Tonearm
Armrest
Cartridge

REPAIRING PRECAUTION (PS-D707P only)

[To supply B+ voltage]

The power of this unit is fed from LBT-D607CD or LBT-D707CD. Because of this, connect the regulated power supply as illustrated right when this unit alone operates.

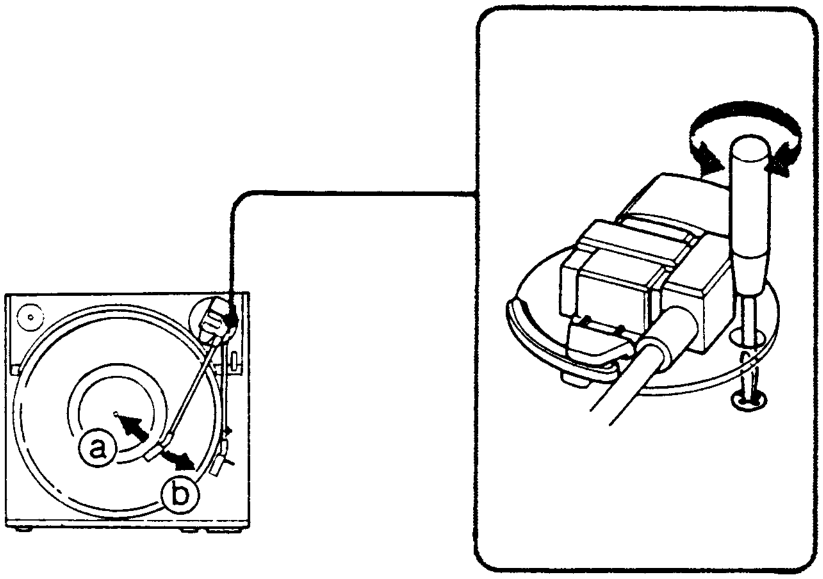

3 core cord
(BLK)
3P connector
regulated DC
power supply
12V
DC
+
−
with white line

1-2. TONEARM DROP-POINT ADJUSTMENT

The tonearm drop-point during auto play has been factory-adjusted. If necessary, readjust it as follows.

To readjust the drop-point inward ⓐ, turn the screw clockwise with a screwdriver.
To readjust the drop-point outward ⓑ, turn the screw counterclockwise.

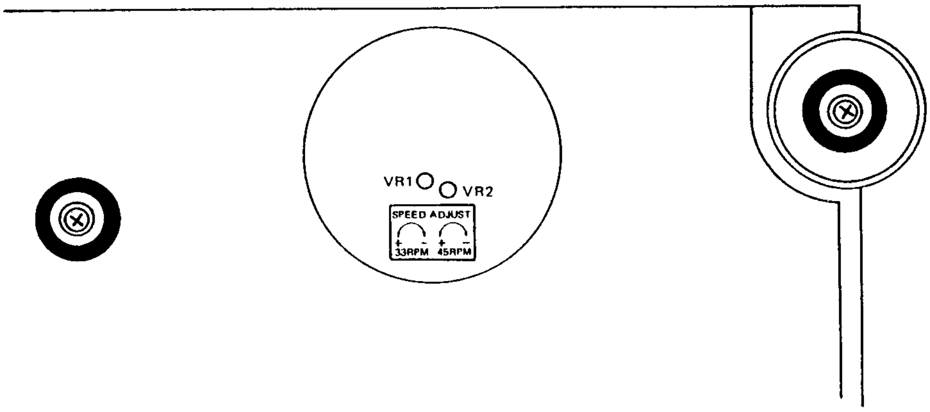
If the tonearm does not return to the arm rest automatically after play
Turn the adjustment screw counterclockwise.



1-3. Speed Adjustment

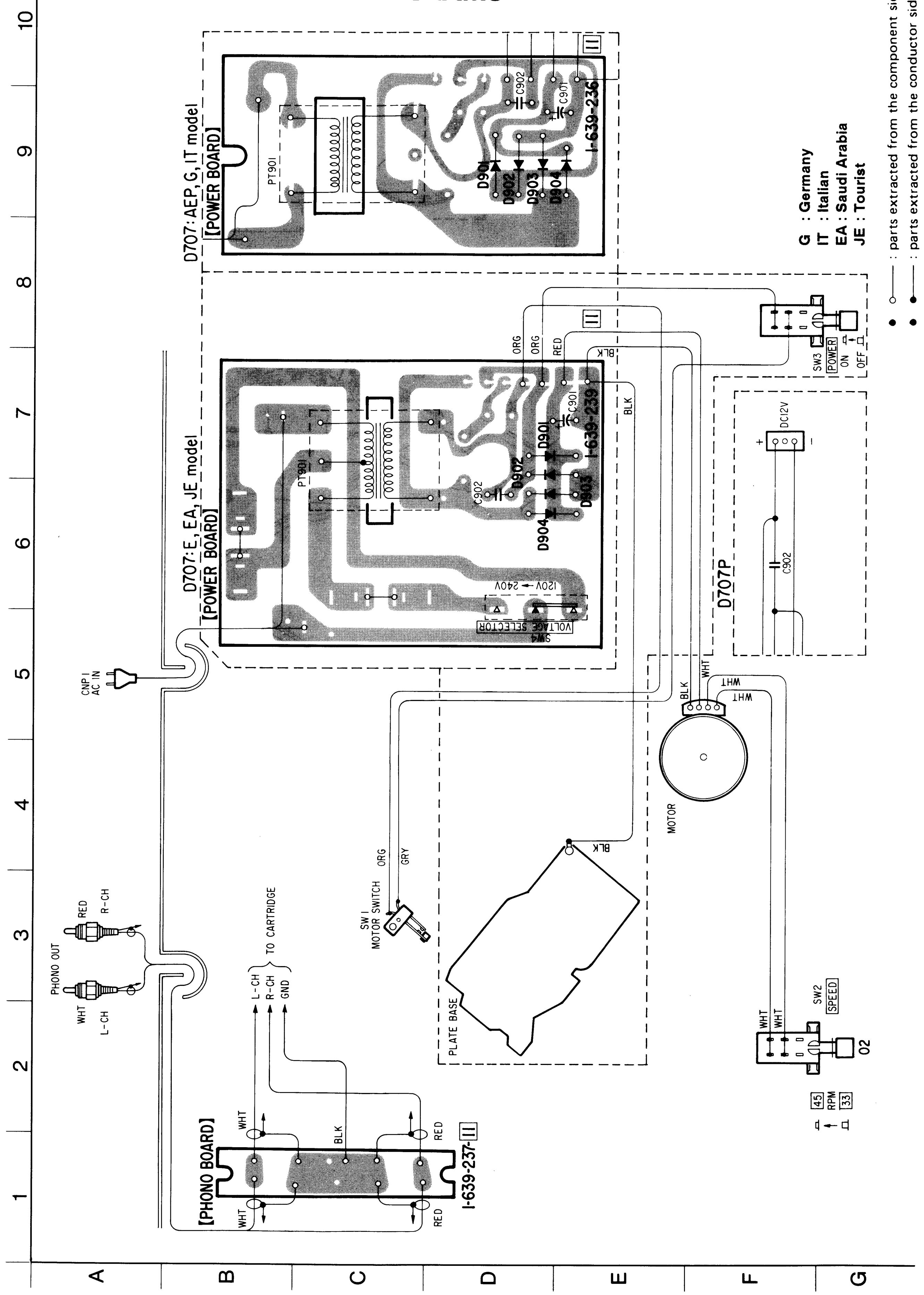
Note: Be sure to perform 45rpm adjustment before 33 rpm.

1. Place a stroboscope board on the turntable sheet.
2. Set the SPEED switch to 45.
   Press the START button.
   Adjust VR2 so that the striped pattern of stroboscope board is stationary.
3. Set the SPEED switch to 33.
   Adjust VR1 in the same way.



SECTION 2
DIAGRAMS

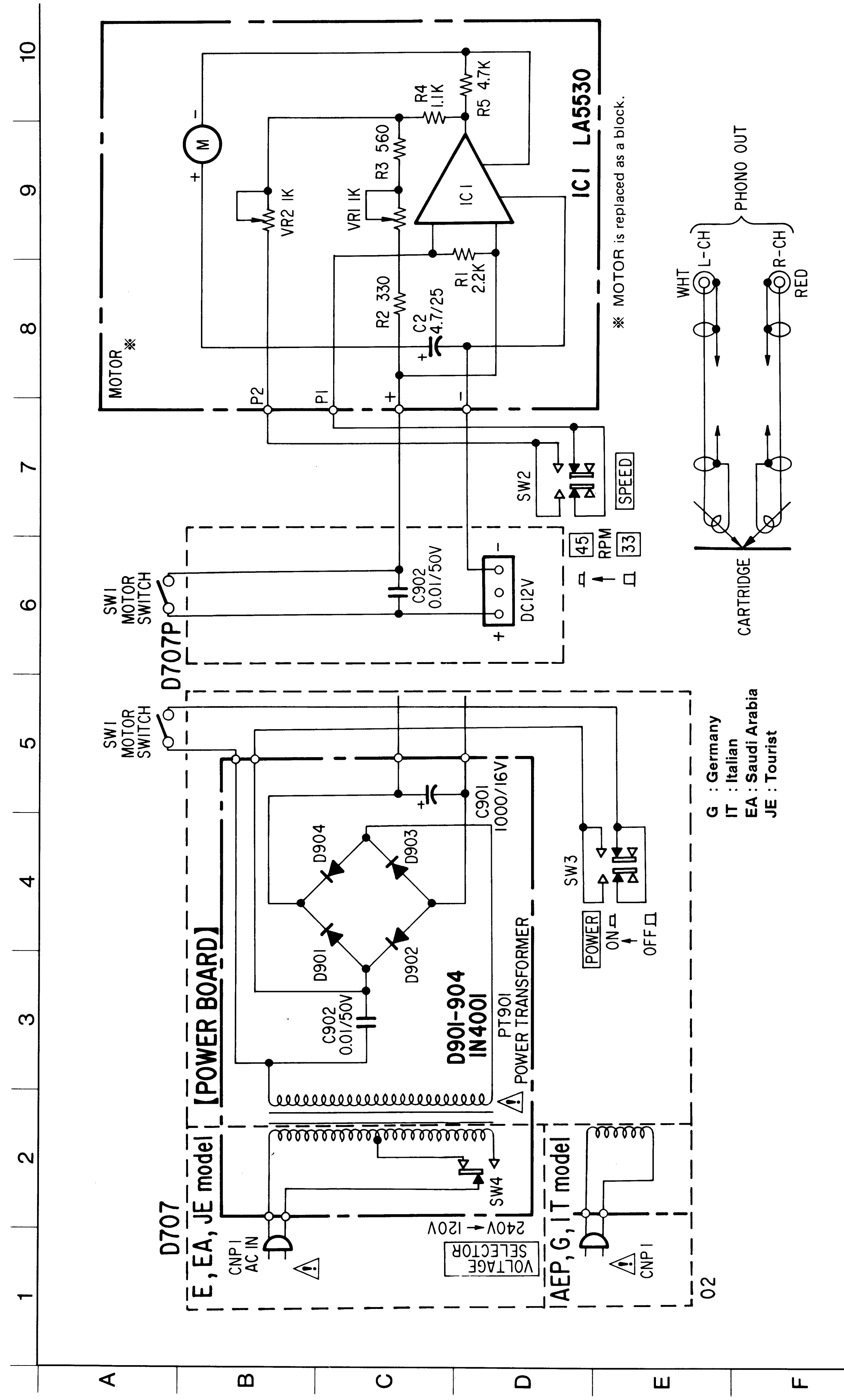
2-1. PRINTED WIRING BOARDS


D707: AEP, G, IT model
[POWER BOARD]
PT901
D901
D902
D903
D904
C901
C902
1-639-236 II
D707: E, EA, JE model
[POWER BOARD]
1-639-239 II
120V ⟷ 240V
VOLTAGE SELECTOR
SW4
ORG
ORG
RED
BLK
WHT
D707P
DC12V
SW3
POWER
ON
OFF
CNP1
AC IN
MOTOR
SW1
MOTOR SWITCH
GRY
PLATE BASE
SW2
SPEED
45
RPM
33
02
PHONO OUT
RED
R-CH
WHT
L-CH
TO CARTRIDGE
L-CH
R-CH
GND
[PHONO BOARD]
1-639-237- II
A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
10

G : Germany
IT : Italian
EA : Saudi Arabia
JE : Tourist

○— : parts extracted from the component side.
●— : parts extracted from the conductor side.

2-2. SCHEMATIC DIAGRAM


MOTOR ※
M
VR2 1K
VR1 1K
R3 560
R4 1.1K
R5 4.7K
R2 330
R1 2.2K
C2 4.7/25
IC1
IC1 LA5530
P2
P1
SW2
SPEED
45
RPM
33
SW1
MOTOR SWITCH
D707P
C902
0.01/50V
DC12V
SW1
MOTOR SWITCH
[POWER BOARD]
C901
1000/16V
D901
D902
D903
D904
C902
0.01/50V
D901-904
IN4001
PT901
POWER TRANSFORMER
SW3
POWER
ON
OFF
D707
E, EA, JE model
CNP1
AC IN
VOLTAGE SELECTOR
240V ⟷ 120V
SW4
AEP, G, IT model
CNP1
02
PHONO OUT
WHT
L-CH
R-CH
RED
CARTRIDGE
A
B
C
D
E
F
1
2
3
4
5
6
7
8
9
10

※ MOTOR is replaced as a block.

G : Germany
IT : Italian
EA : Saudi Arabia
JE : Tourist

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Note:
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.

SECTION 3 EXPLODED VIEWS

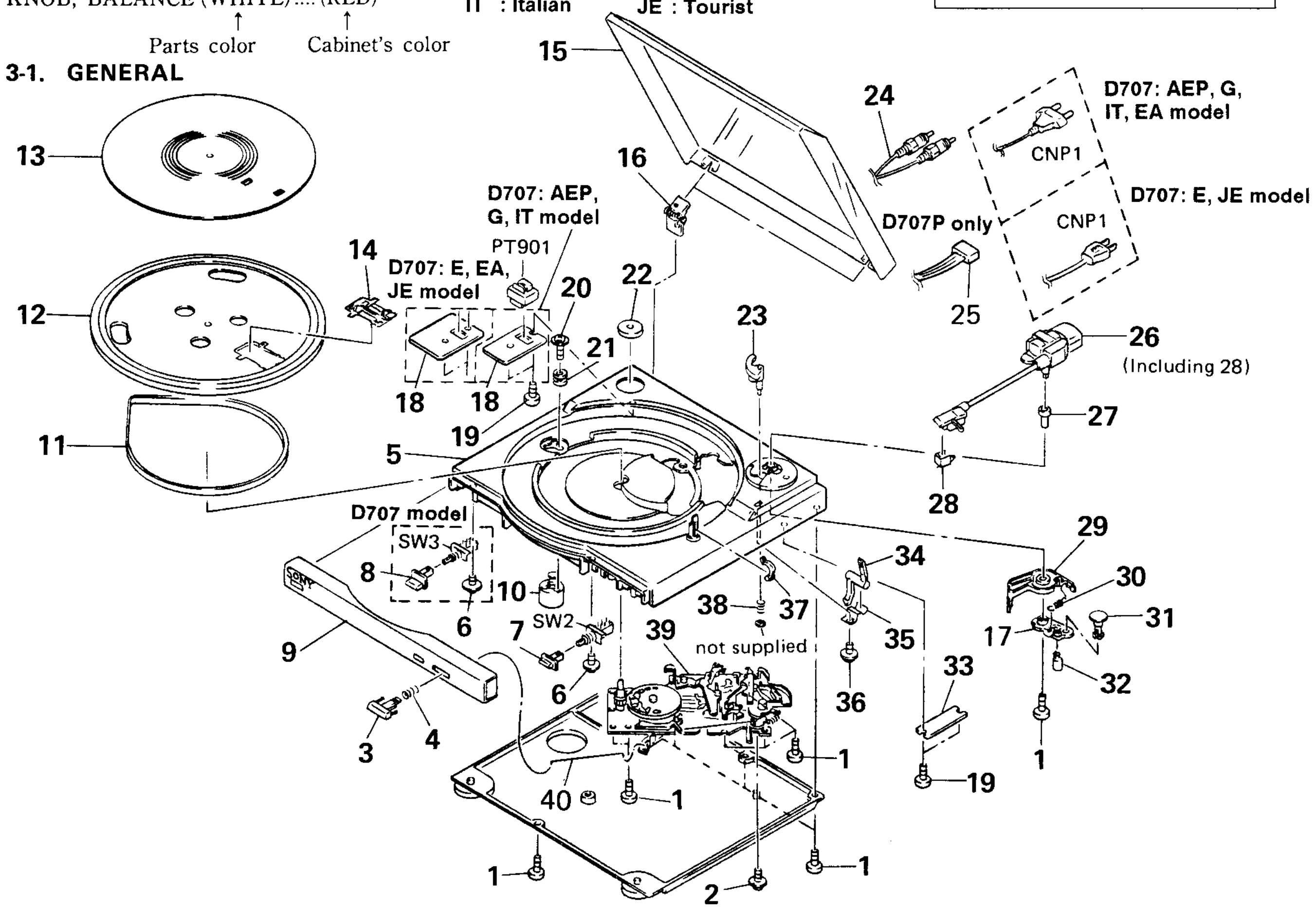
NOTE:
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Color indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE) .... (RED)
  ↑ Parts color ↑ Cabinet's color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.

G : Germany EA : Saudi Arabia
IT : Italian JE : Tourist

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

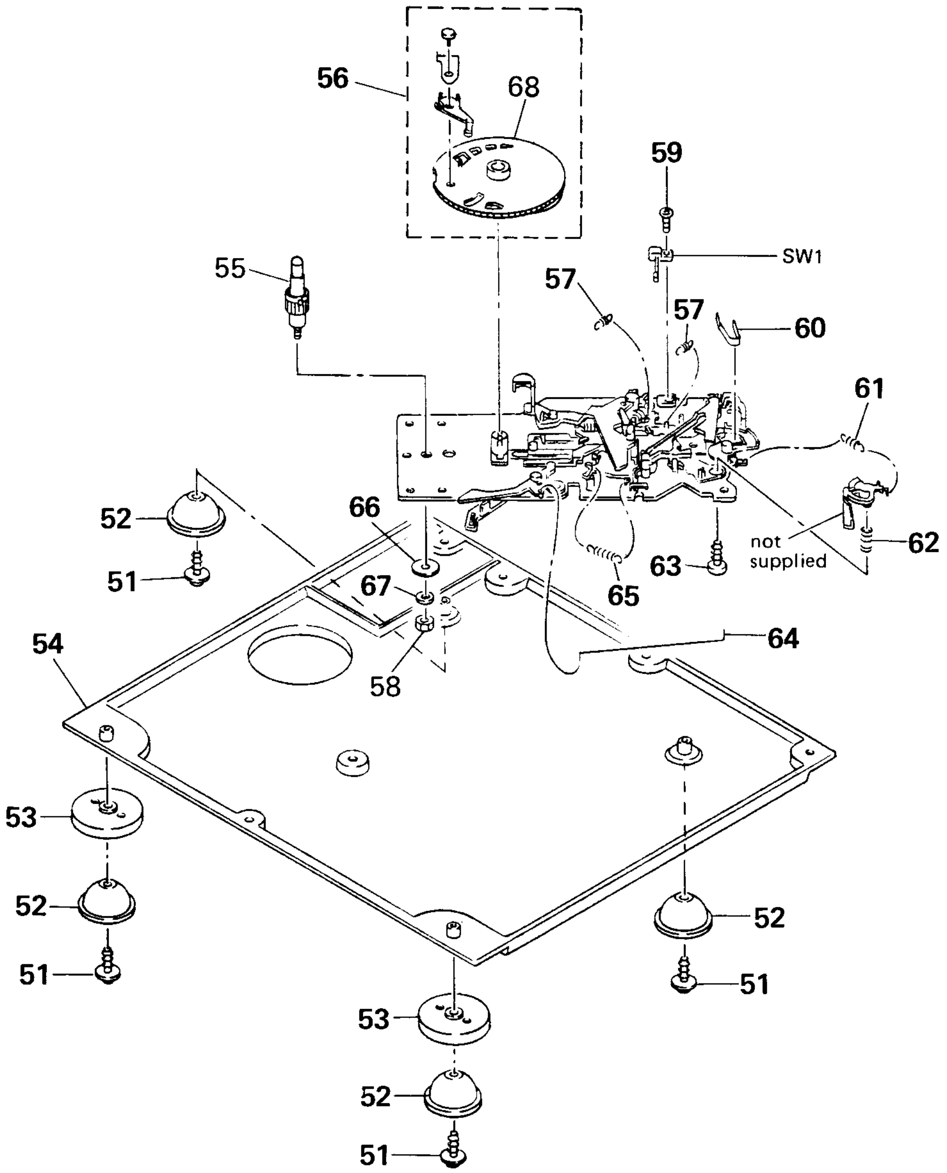
When indicating parts by reference number, please include the board.

3-1. GENERAL



Ref. No.	Part No.	Description	Remark
1	4-946-233-01	SCREW #2WPT 3X12Y	
2	4-946-234-01	SCREW #2WPT 3X10X12Y	
3	4-944-680-01	BUTTON, START STOP(BLACK) (D707:EA3, JE, IT)	
3	4-944-680-11	BUTTON, START STOP(GRAY) (D707:AEP, G, EA3, JE, E/D707P)	
4	4-944-686-01	SPRING, RETURN	
* 5	4-944-678-01	CABINET, UPPER	
6	8-099-230-08	SCREW 3X8	
7	4-944-683-01	BUTTON, SPEED(BLACK)(D707:EA3, JE, IT, E)	
7	4-944-683-11	BUTTON, SPEED(GRAY) (D707:AEP, G, EA3, JE/D707P)	
8	4-944-681-01	BUTTON, POWER(BLACK)(D707:EA3, JE, IT)	
8	4-944-681-11	BUTTON, POWER(GRAY)(D707:AEP, G, EA3, JE, E)	
9	A-4660-102-A	PANEL (G) ASSY, FRONT(GRAY) (D707:AEP, G, EA3, JE, E)	
9	A-4660-103-A	PANEL (P-G) ASSY, FRONT(D707P)	
9	A-4660-104-A	PANEL (B) ASSY, FRONT(BLACK) (D707:EA3, JE, IT)	
10	1-541-872-11	MOTOR, DC (WITH PULLEY)	
11	4-944-743-01	BELT	
12	4-944-744-01	PLATER	
13	4-950-309-01	SHEET, RUBBER	
14	A-4325-130-A	SENSOR ASSY	
15	A-4604-844-A	COVER ASSY, DUST	
16	4-944-691-01	HINGE	
17	4-944-703-01	ARM (A), FEED	
* 18	1-639-239-11	POWER BOARD(D707:EA3, JE, E)	
* 18	1-639-236-11	POWER BOARD(D707:AEP, G, IT)	
19	4-944-729-01	SCREW	
20	4-944-694-01	SCREW, SETTING MOTOR	
21	4-944-692-01	CUSHION, MOTOR	
22	3-701-806-00	ADAPTOR, EP	
23	4-944-675-01	ARM, ELEVATION	
24	1-551-294-00	CORD (PHONO)	
25	1-590-871-11	CORD (WITH CONNECTOR) 3P(D707P)	
26	A-4604-840-A	ARM ASSY, TONE	
* 27	4-944-672-01	BUSHING, TONE ARM	
28	4-944-756-01	CARTRIDGE	
29	4-944-704-01	ARM (B), FEED	
30	4-944-705-01	SPRING, FEED ARM	
31	4-944-759-01	ADJUSTMENT, CAM LEAD IN	
32	4-944-760-01	ADJUSTMENT, CAM LEAD AUTORETURN	
* 33	1-639-237-11	PC BOARD, PHONO	
34	4-944-674-01	LEVER, CUING	
* 35	4-944-685-01	BRACKET, CUING	
36	4-944-695-01	SCREW	
37	4-944-673-01	LOCKER, ARM	
38	4-944-687-01	SPRING, ELEVATION	
* 39	A-4604-842-A	MECHANICAL ASSY, BASE	
40	4-944-688-01	LINK, START CUT	
⚠CNP1	1-555-750-00	CORD, POWER(D707:AEP, G, EA3, IT)	
⚠CNP1	1-551-188-XX	CORD, POWER(D707:JE, E)	
⚠PT901	1-450-508-11	TRANSFORMER, POWER(D707)	
SW2	1-572-744-11	SWITCH, PUSH(SPEED)	
SW3	1-572-744-11	SWITCH, PUSH(POWER)(D707)	

3-2. MD SECTION



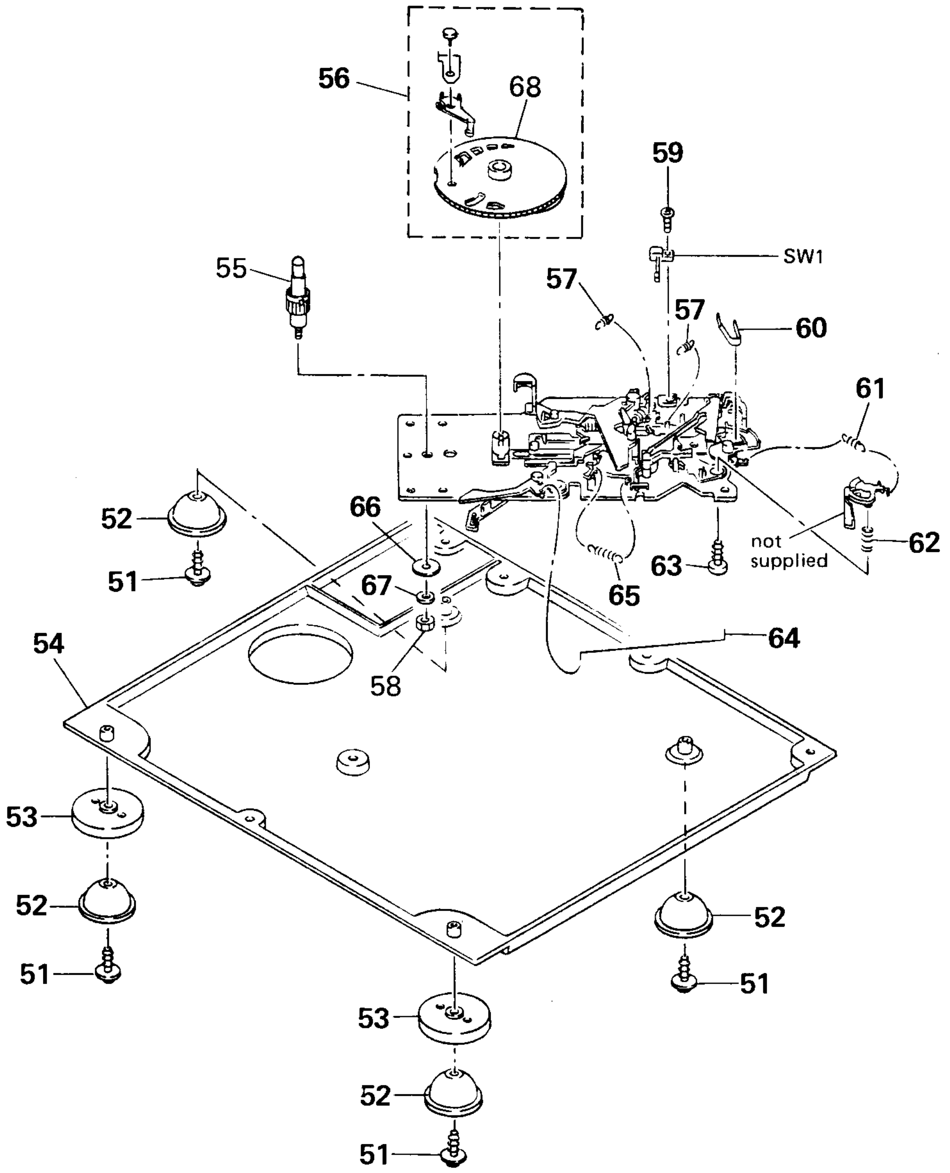
Ref. No.	Part No.	Description	Remark
51	4-946-234-01	SCREW #2WPT 3X10X12Y	
52	4-944-693-01	RUBBER, FOOT	
53	4-944-679-01	COVER, FOOT	
* 54	4-944-684-01	COVER, BOTTOM	
55	A-4604-892-A	SHAFT ASSY, CENTER	
56	A-4325-128-A	GEAR ASSY, RING	
* 57	4-944-725-01	SPRING, SWITCH	
58	4-944-730-01	NUT	
59	4-944-728-01	SCREW	
* 60	4-944-726-01	BRACKET, LOCKER	
61	4-944-723-01	SPRING, CONTROL	
62	4-944-722-01	SPRING, CUING CAM	
63	4-946-233-01	SCREW #2WPT 3X12Y	
64	4-944-727-01	LINK, REJECT	
65	4-944-724-01	SPRING, MECHANICAL	
66	4-944-731-01	WASHER, RAIN	
67	4-944-732-01	WASHER, SPRING	
68	4-944-738-01	GEAR, RING	
SW1	1-572-746-11	SWITCH, LEAF	

POWER

NOTE:
- Due to stan
  the parts lis
  parts specif
  components
- -XX, -X m
  they may
  the original
- RESISTORS
  All resistors
  METAL: M
  METAL OX
  F: nonflamm

Ref. No.	Pa
*	1-
*	1-
C901	1-
C902	1-
⚠CNP1	1-
⚠CNP1	1-
D901	8
D902	8
D903	8
D904	8
⚠PT901	1
SW4	1

3-2. MD SECTION



Ref. No.	Part No.	Description	Remark
51	4-946-234-01	SCREW #2WPT 3X10X12Y	
52	4-944-693-01	RUBBER, FOOT	
53	4-944-679-01	COVER, FOOT	
* 54	4-944-684-01	COVER, BOTTOM	
55	A-4604-892-A	SHAFT ASSY, CENTER	
56	A-4325-128-A	GEAR ASSY, RING	
* 57	4-944-725-01	SPRING, SWITCH	
58	4-944-730-01	NUT	
59	4-944-728-01	SCREW	
* 60	4-944-726-01	BRACKET, LOCKER	
61	4-944-723-01	SPRING, CONTROL	
62	4-944-722-01	SPRING, CUING CAM	
63	4-946-233-01	SCREW #2WPT 3X12Y	
64	4-944-727-01	LINK, REJECT	
65	4-944-724-01	SPRING, MECHANICAL	
66	4-944-731-01	WASHER, RAIN	
67	4-944-732-01	WASHER, SPRING	
68	4-944-738-01	GEAR, RING	
SW1	1-572-746-11	SWITCH, LEAF	

POWER

SECTION 4
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal oxide-film resistor
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA....: μA...., uPA....: μPA....
  uPB....: μPB...., uPC....: μPC....
  uPD....: μPD....
- CAPACITORS
  uF: μF
- COILS
  uH: μH

G : **Germany**
IT : **Italian**
EA : **Saudi Arabia**
JE : **Tourist**

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description	Remark
*	1-639-236-11	POWER BOARD (D707:AEP, G, IT)	
*	1-639-239-11	POWER BOARD (D707:EA3, JE, E)	
		***********	
		< CAPACITOR >	
C901	1-124-360-00	ELECT 1000uF 20% 16V (D707)	
C902	1-136-153-00	FILM 0.01uF 50V	
		< CONNECTOR >	
⚠CNP1	1-555-750-00	CORD, POWER (D707:AEP, G, EA3, IT)	
⚠CNP1	1-551-188-XX	CORD, POWER (D707:JE, E)	
		< DIODE >	
D901	8-719-200-02	DIODE 10E2 (D707)	
D902	8-719-200-02	DIODE 10E2 (D707)	
D903	8-719-200-02	DIODE 10E2 (D707)	
D904	8-719-200-02	DIODE 10E2 (D707)	
		< TRANSFORMER >	
⚠PT901	1-450-508-11	TRANSFORMER, POWER (D707)	
		< SWITCH >	
SW4	1-572-745-11	SELECTOR, VOLTAGE (D707:EA3, JE, E)	
		MISCELLANEOUS	
		*************	
10	1-541-872-11	MOTOR, DC (WITH PULLEY)	
24	1-551-294-00	CORD (PHONO)	
25	1-590-871-11	CORD (WITH CONNECTOR) 3P (D707P)	
* 33	1-639-237-11	PC BOARD, PHONO	
⚠CNP1	1-555-750-00	CORD, POWER (D707:AEP, G, EA3, IT)	
⚠CNP1	1-551-188-XX	CORD, POWER (D707:JE, E)	
SW1	1-572-746-11	SWITCH, LEAF	
SW2	1-572-744-11	SWITCH, PUSH (SPEED)	
SW3	1-572-744-11	SWITCH, PUSH (POWER) (D707)	
***			
		ACCESSORIES & PACKING MATERIALS	
		******************************	
	3-754-642-11	MANUAL, INSTRUCTION (D707:AEP, EA3, JE, E) (ENGLISH, FRENCH, SPANISH, PORTUGUESE)	
	3-754-642-41	MANUAL, INSTRUCTION (D707:AEP, G, IT) (GERMAN, DUTCH, SWEDISH, ITALIAN)	
*	4-944-749-01	CUSHION (FRONT)	
*	4-944-750-01	CUSHION (REAR)	
*	4-950-061-01	INDIVIDUAL CARTON (D707:AEP, G, EA3, JE, E)	
*	4-950-063-01	INDIVIDUAL CARTON (D707:EA3, JE, IT)	
*	4-950-064-01	INDIVIDUAL CARTON (D707P)	

9-956-982-11

Sony Corporation
Audio Group

English
92B0270-1
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Published by Customer Relations and Service Group

TA-A70/D707

SERVICE MANUAL

E Model
Australian Model
Tourist Model
TA-A70

AEP Model
UK Model
TA-D707

SONY
VOLUME
VIDEO
FUNCTION
AUDIO

This set is the Amplifier section in LBT-A70/A70CD/A70CDM/D707/D707CD.

This photo is TA-A70.

SPECIFICATIONS

Continuous RMS power output	80 W + 80 W (6 ohms, at 1 kHz, 5% THD) 70 W + 70 W (6 ohms, DIN, 1 kHz)
Music power output	120 W + 120 W (6 ohms, at 1 kHz, 10% THD)

Audio input

	Jack type	Sensitivity	Impedance
VIDEO1	Phono	245 mV	47 kohms
VIDEO2	Phono	245 mV	47 kohms
VIDEO3	Phono	245 mV	47 kohms
PHONO(MM)	Phono	3.3 mV	47 kohms
MIC	Phone	1 mV	10 kohms

Audio output

	Jack type	Voltage	Impedance
VIDEO1	Phono	200 mV	2 kohms
VIDEO2	Phono	200 mV	2 kohms
SPEAKER	———	Accepts speakers of 6 to 16 ohms	
SURROUND SPEAKER	Phono	Accepts speakers of 8 to 16 (A70) or 16 (D707) ohms	
HEADPHONES	Stereophone	Accepts headphones of 8 ohms or more	

Video input (phono jack)	
VIDEO1, VIDEO2, VIDEO3	1 Vp-p, 75Ω unbalanced, sync negative
Video output (phono jack)	
VIDEO1, VIDEO2	1 Vp-p, 75Ω unbalanced, sync negative
MONITOR	1 Vp-p, 75Ω unbalanced, sync negative
Frequency response	A70: 15Hz to 50kHz $^{+0}_{-3}$ dB D707: 10Hz to 50kHz $^{+0}_{-3}$ dB
Power requirements	A70: 120V/220V/240V AC, adjustable with the voltage selector, 50/60Hz AEP, G, IT model: 220V—230V AC, 50/60Hz UK model: 240V AC, 50/60Hz
Power consumption	A70: 200W D707: 420W
AC outlet	1 unswitched, 100 W max.
Weight	Approx. 6.8 kg (15 lb)
Dimensions	Approx. 355 x 132 x 320 mm (14 x 5¹/₄ x 12⁵/₈ inches) (w/h/d, including projections)

Design and specifications are subject to change without notice.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MICROFILM

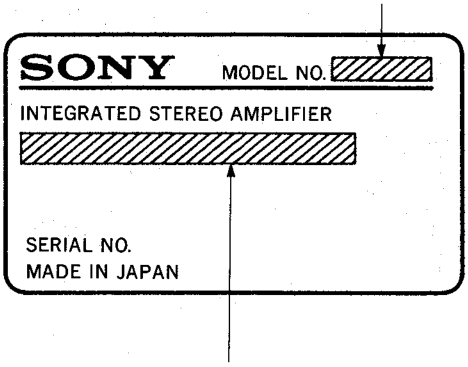
- G : Germany model
IT : Italian model

INTEGRATED STEREO AMPLIFIER

SONY®

MODEL IDENTIFICATION
—Specification Label—

E, TR, EA, AUS model: TA-A70
AEP, UK, G, IT model: TA-D707



AEP, IT model	: AC: 220V—230V~50/60Hz
UK model	: AC: 240V~50/60Hz
G model	: SYSTEM LBT-D707 AC: 220V—230V~50/60Hz
E, TR, EA, AUS model	: AC: 120V/220V/240V~50/60Hz 200W

- TR : Tourist model
  EA : Saudi Arabia model
  AUS: Australian model
  G : Germany model
  IT : Italian model

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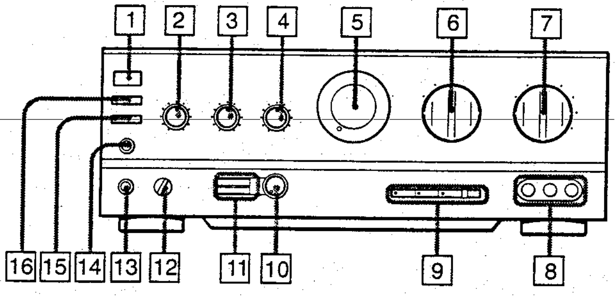
* * *

SECTION 1
GENERAL

This section is extracted from instruction manual.

1-1. LOCATION OF CONTROLS

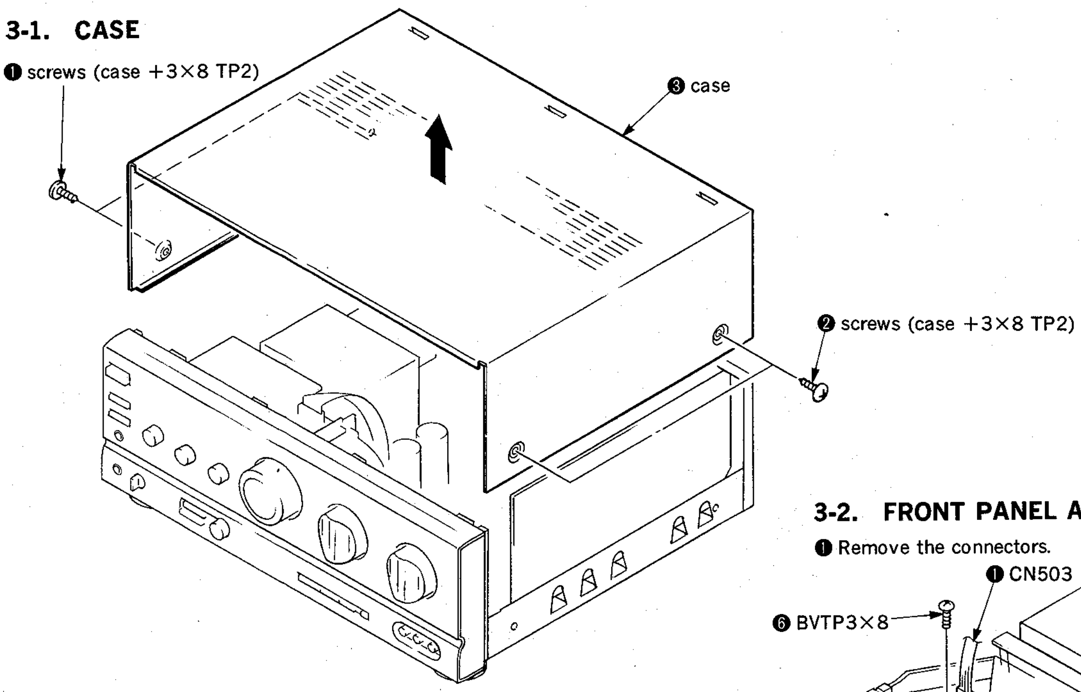


1 POWER switch (8)
2 BASS control (9)
3 TREBLE control (9)
4 BALANCE control (9)
5 VOLUME control and indicator (9)
6 VIDEO FUNCTION selector and indicator (66)
7 AUDIO FUNCTION selector and indicator (33, 66)
8 VIDEO 3 INPUT jacks (7)
9 PROGRAM FUNCTION buttons (65)
  Numeric buttons (1 – 3) and indicators
  SET button
10 BASS SYNTHESIZER LEVEL control (9)
11 BASS SYNTHE(sizer) button and indicator (9)
12 MIC (microphone) LEVEL control (33)
13 MIC (microphone) jack (33)
14 HEADPHONES jack (9)
15 EQ REC button and indicator (22)
16 CD DIRECT button and indicator (9)

SECTION 3
DISASSEMBLY

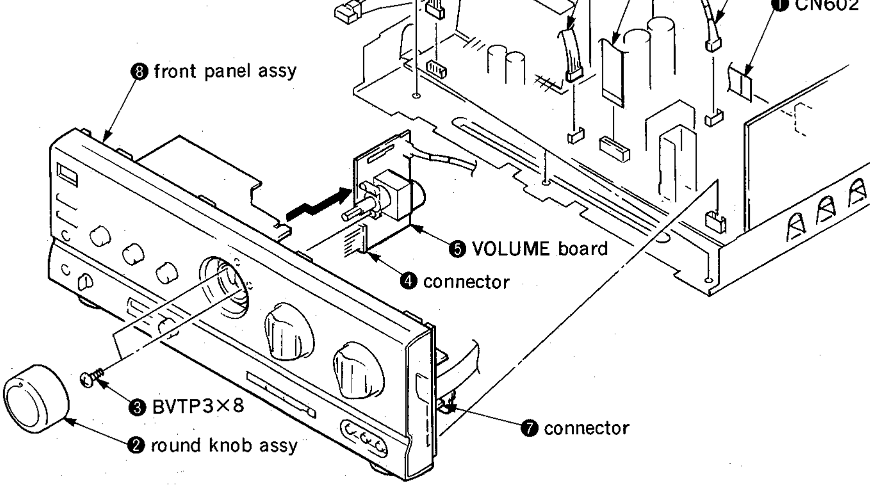
Note : Follow the disassembly procedure in the numerical order given.

3-1. CASE

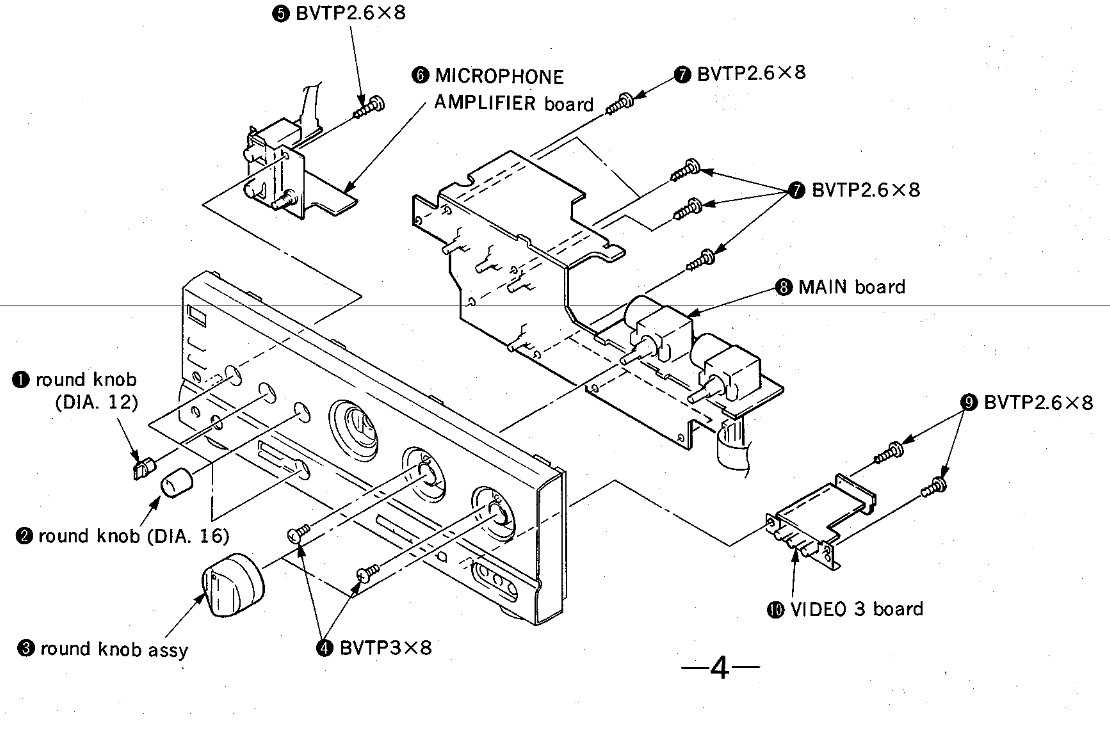

❶ screws (case +3×8 TP2)
❸ case
❷ screws (case +3×8 TP2)

3-2. FRONT PANEL ASSY

❶ Remove the connectors.


❶ CN503
❶ CN301
❶ CN702
❶ CN501
❶ CN602
❻ BVTP3×8
❽ front panel assy
❺ VOLUME board
❹ connector
❸ BVTP3×8
❷ round knob assy
❼ connector

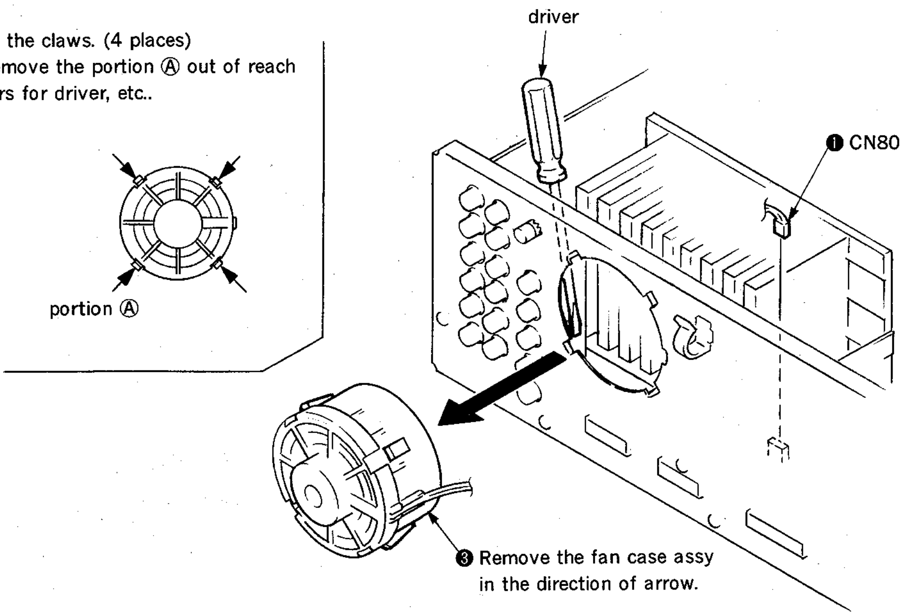
3-3. PANEL BOARD


❺ BVTP2.6×8
❻ MICROPHONE AMPLIFIER board
❼ BVTP2.6×8
❼ BVTP2.6×8
❽ MAIN board
❶ round knob (DIA. 12)
❾ BVTP2.6×8
❷ round knob (DIA. 16)
❿ VIDEO 3 board
❸ round knob assy
❹ BVTP3×8

SECTION 2
SERVICE NOTES

Note : Follow the disassembly procedure in the numerical order given.

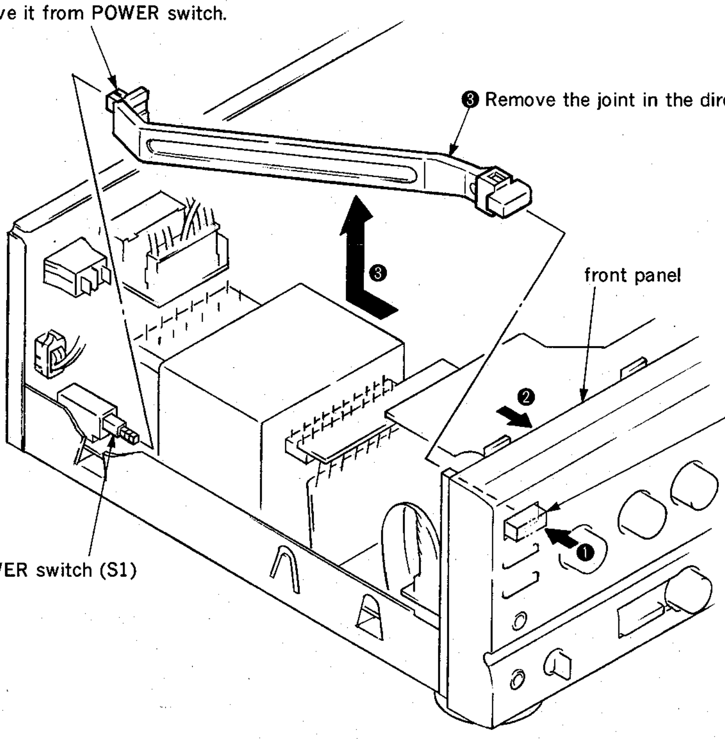
2-1. REMOVAL OF FAN CASE


driver
❶ CN801
portion Ⓐ

❷ Remove the claws. (4 places)
Then, remove the portion Ⓐ out of reach of fingers for driver, etc..

❸ Remove the fan case assy in the direction of arrow.

2-2. REMOVAL OF JOINT

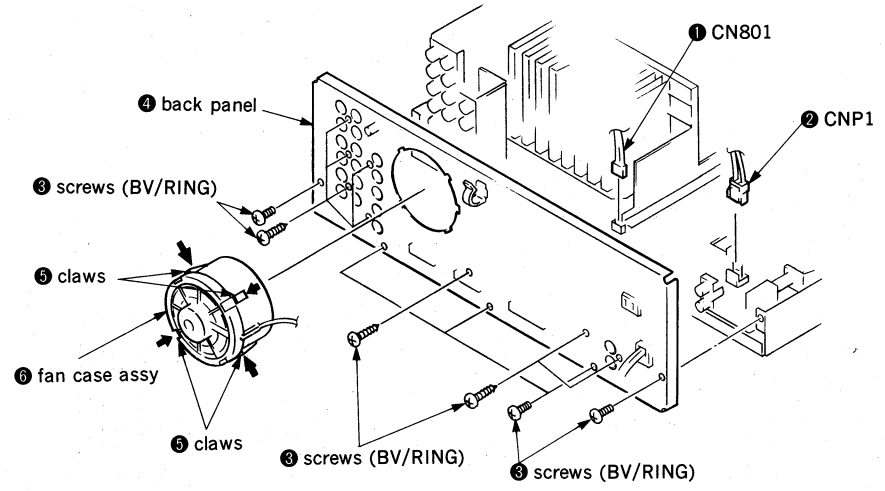

❸
❷
❶
front panel
POWER switch (S1)

❶ Push the button (P) and POWER switch to turn ON.

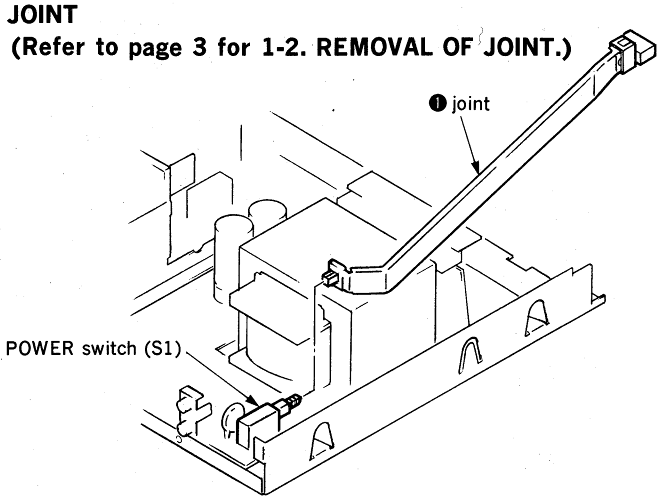
❷ Press the joint for front panel and remove it from POWER switch.

❸ Remove the joint in the direction of arrow.

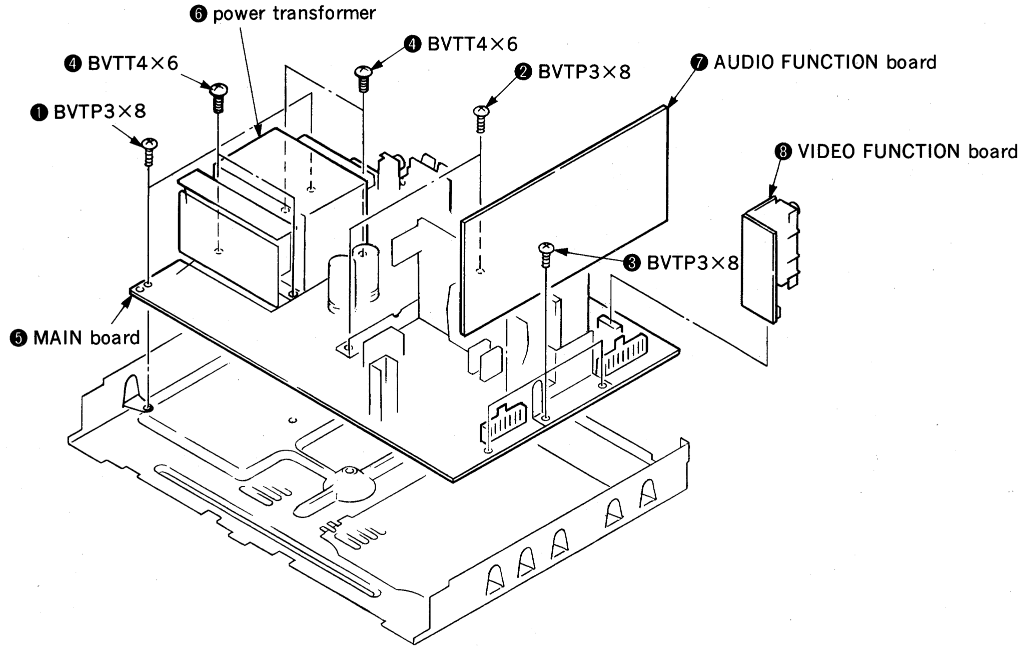
3-4. BACK PANEL, FAN CASE ASSY (Refer to page 3 for 1-1. REMOVAL OF FAN CASE ASSY.)


❶ CN801
❷ CNP1
❹ back panel
❸ screws (BV/RING)
❺ claws
❻ fan case assy
❺ claws
❸ screws (BV/RING)
❸ screws (BV/RING)

3-5. JOINT (Refer to page 3 for 1-2. REMOVAL OF JOINT.)

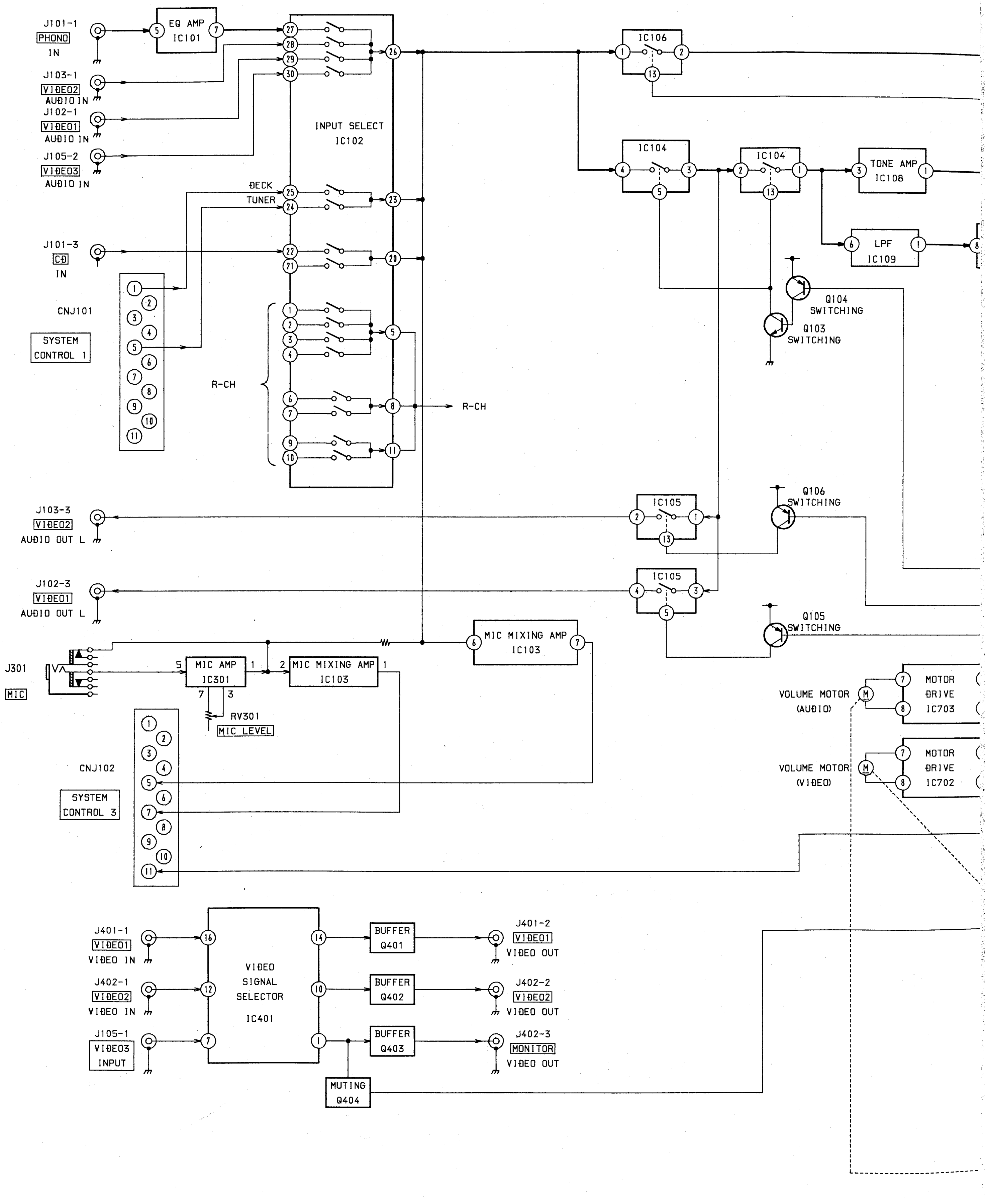

❶ joint
POWER switch (S1)

3-6. MAIN BOARD

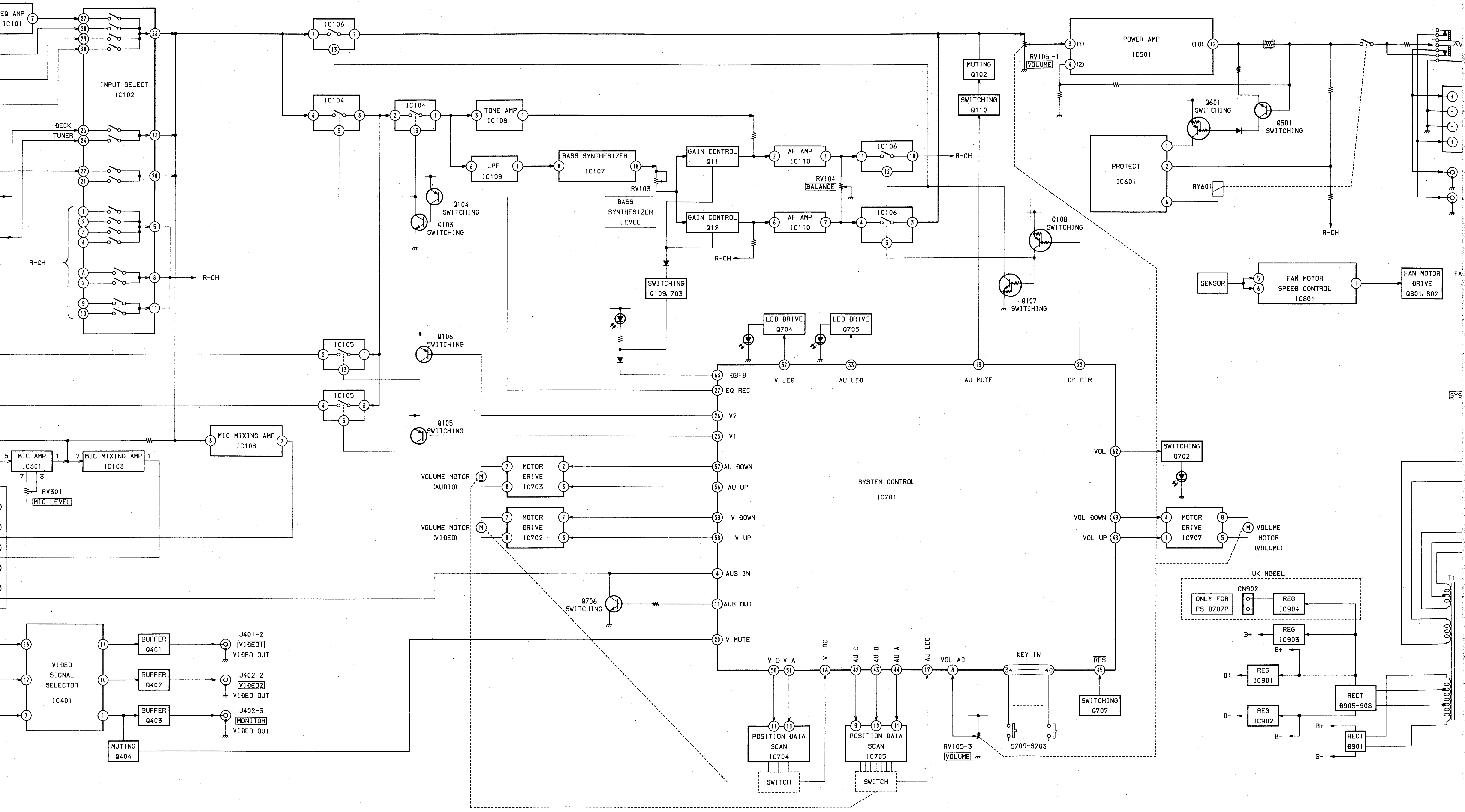

❻ power transformer
❹ BVTT4×6
❹ BVTT4×6
❷ BVTP3×8
❼ AUDIO FUNCTION board
❶ BVTP3×8
❽ VIDEO FUNCTION board
❸ BVTP3×8
❺ MAIN board

SECTION 4
DIAGRAMS

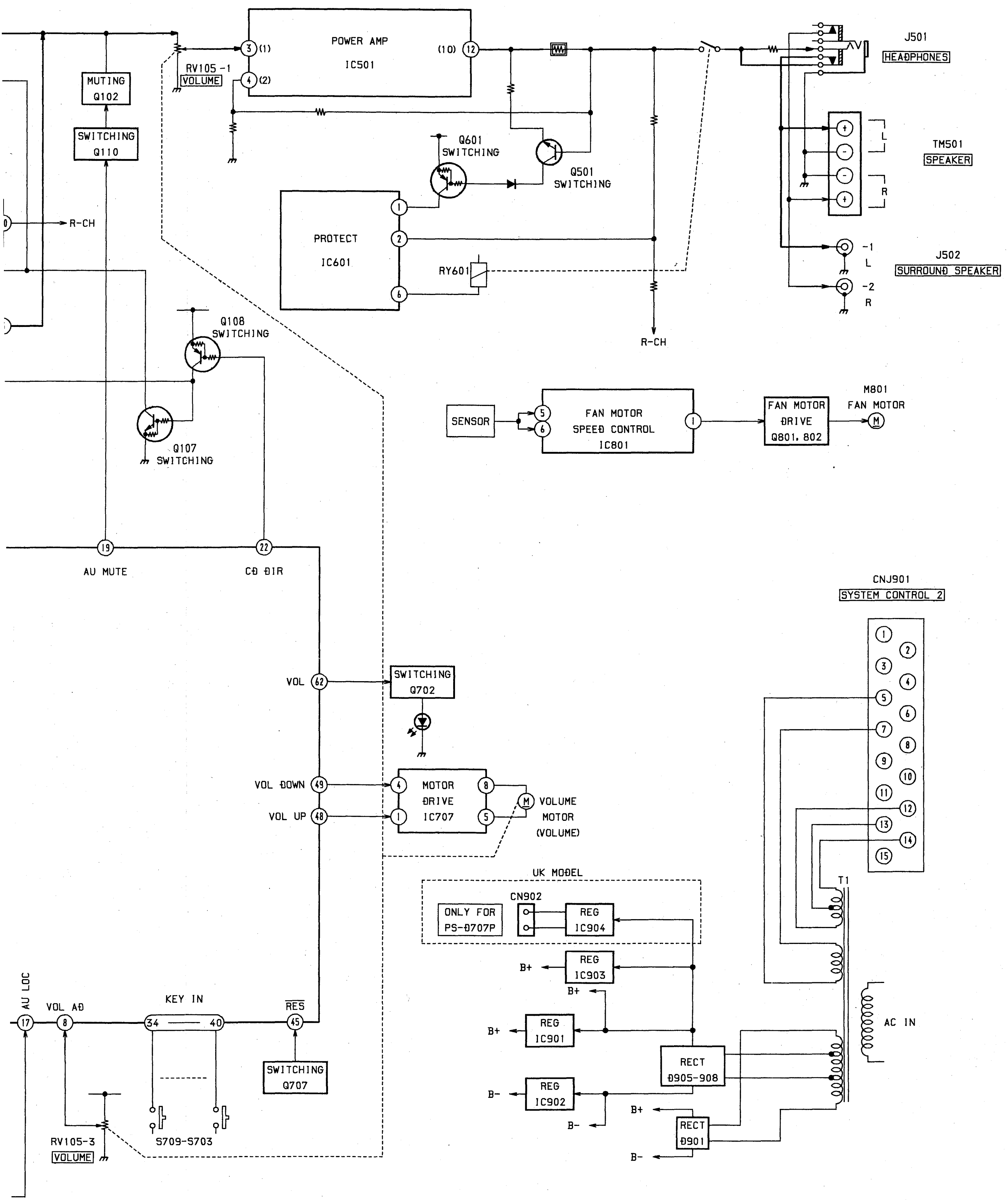
4-1. BLOCK DIAGRAM


J101-1
PHONO
IN
EQ AMP
IC101
J103-1
VIDEO2
AUDIO IN
J102-1
VIDEO1
AUDIO IN
J105-2
VIDEO3
AUDIO IN
INPUT SELECT
IC102
DECK
TUNER
J101-3
CD
IN
CNJ101
SYSTEM
CONTROL 1
R-CH
R-CH
IC106
IC104
IC104
TONE AMP
IC108
LPF
IC109
Q104
SWITCHING
Q103
SWITCHING
J103-3
VIDEO2
AUDIO OUT L
IC105
Q106
SWITCHING
J102-3
VIDEO1
AUDIO OUT L
IC105
Q105
SWITCHING
MIC MIXING AMP
IC103
J301
MIC
MIC AMP
IC301
MIC MIXING AMP
IC103
RV301
MIC LEVEL
VOLUME MOTOR
(AUDIO)
MOTOR
DRIVE
IC703
VOLUME MOTOR
(VIDEO)
MOTOR
DRIVE
IC702
CNJ102
SYSTEM
CONTROL 3
J401-1
VIDEO1
VIDEO IN
J402-1
VIDEO2
VIDEO IN
J105-1
VIDEO3
INPUT
VIDEO
SIGNAL
SELECTOR
IC401
BUFFER
Q401
BUFFER
Q402
BUFFER
Q403
MUTING
Q404
J401-2
VIDEO1
VIDEO OUT
J402-2
VIDEO2
VIDEO OUT
J402-3
MONITOR
VIDEO OUT

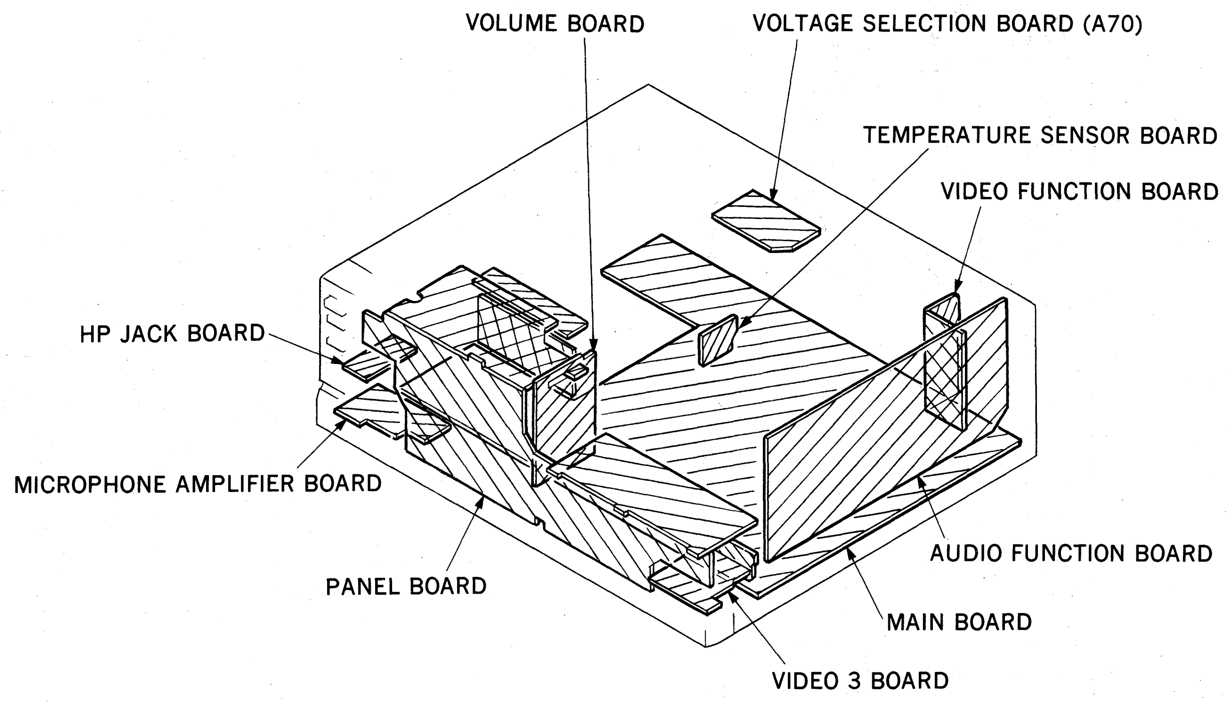
SECTION 4
DIAGRAMS



EQ AMP IC101
INPUT SELECT IC102
DECK
TUNER
R-CH
R-CH
IC106
IC104
IC104
TONE AMP IC108
LPF IC109
BASS SYNTHESIZER IC107
RV103
BASS SYNTHESIZER LEVEL
GAIN CONTROL Q11
GAIN CONTROL Q12
AF AMP IC110
AF AMP IC110
IC106
IC106
R-CH
RV104 BALANCE
R-CH
Q104 SWITCHING
Q103 SWITCHING
SWITCHING Q109, 703
IC105
IC105
Q106 SWITCHING
Q105 SWITCHING
MIC MIXING AMP IC103
MIC AMP IC301
MIC MIXING AMP IC103
RV301 MIC LEVEL
MUTING Q102
SWITCHING Q110
RV105-1 VOLUME
POWER AMP IC501
Q601 SWITCHING
Q501 SWITCHING
PROTECT IC601
RY601
R-CH
Q108 SWITCHING
Q107 SWITCHING
LED DRIVE Q704
LED DRIVE Q705
SENSOR
FAN MOTOR SPEED CONTROL IC801
FAN MOTOR DRIVE Q801, 802
DBFB
EQ REC
V2
V1
V LED
AU LED
AU MUTE
CD DIR
AU DOWN
AU UP
V DOWN
V UP
AUD IN
AUD OUT
V MUTE
SYSTEM CONTROL IC701
VOL
VOL DOWN
VOL UP
VOLUME MOTOR (AUDIO)
MOTOR DRIVE IC703
VOLUME MOTOR (VIDEO)
MOTOR DRIVE IC702
Q706 SWITCHING
SWITCHING Q702
MOTOR DRIVE IC707
VOLUME MOTOR (VOLUME)
V B V A
V LOC
AU C
AU B
AU A
AU LOC
VOL AD
KEY IN
RES
POSITION DATA SCAN IC704
POSITION DATA SCAN IC705
SWITCH
SWITCH
RV105-3 VOLUME
S709-S703
SWITCHING Q707
UK MODEL
CN902
ONLY FOR PS-D707P
REG IC904
REG IC903
REG IC901
REG IC902
RECT D905-908
RECT D901
B+
B-
T1
VIDEO SIGNAL SELECTOR IC401
BUFFER Q401
BUFFER Q402
BUFFER Q403
MUTING Q404
J401-2 VIDEO1 VIDEO OUT
J402-2 VIDEO2 VIDEO OUT
J402-3 MONITOR VIDEO OUT
SYS
FA


POWER AMP
IC501
RV105-1
VOLUME
MUTING
Q102
SWITCHING
Q110
R-CH
Q601
SWITCHING
Q501
SWITCHING
PROTECT
IC601
RY601
J501
HEADPHONES
TM501
SPEAKER
L
R
J502
SURROUND SPEAKER
-1
-2
Q108
SWITCHING
Q107
SWITCHING
SENSOR
FAN MOTOR
SPEED CONTROL
IC801
FAN MOTOR
DRIVE
Q801, 802
M801
FAN MOTOR
AU MUTE
CD DIR
VOL
VOL DOWN
VOL UP
SWITCHING
Q702
MOTOR
DRIVE
IC707
VOLUME
MOTOR
(VOLUME)
CNJ901
SYSTEM CONTROL 2
T1
AC IN
UK MODEL
CN902
ONLY FOR
PS-D707P
REG
IC904
REG
IC903
REG
IC901
REG
IC902
RECT
D905-908
RECT
D901
B+
B-
AU LOC
VOL AD
KEY IN
RES
SWITCHING
Q707
RV105-3
VOLUME
S709-S703

4-2. CIRCUIT BOARDS LOCATION


VOLUME BOARD
VOLTAGE SELECTION BOARD (A70)
TEMPERATURE SENSOR BOARD
VIDEO FUNCTION BOARD
HP JACK BOARD
MICROPHONE AMPLIFIER BOARD
PANEL BOARD
AUDIO FUNCTION BOARD
MAIN BOARD
VIDEO 3 BOARD

• Semiconductor Location

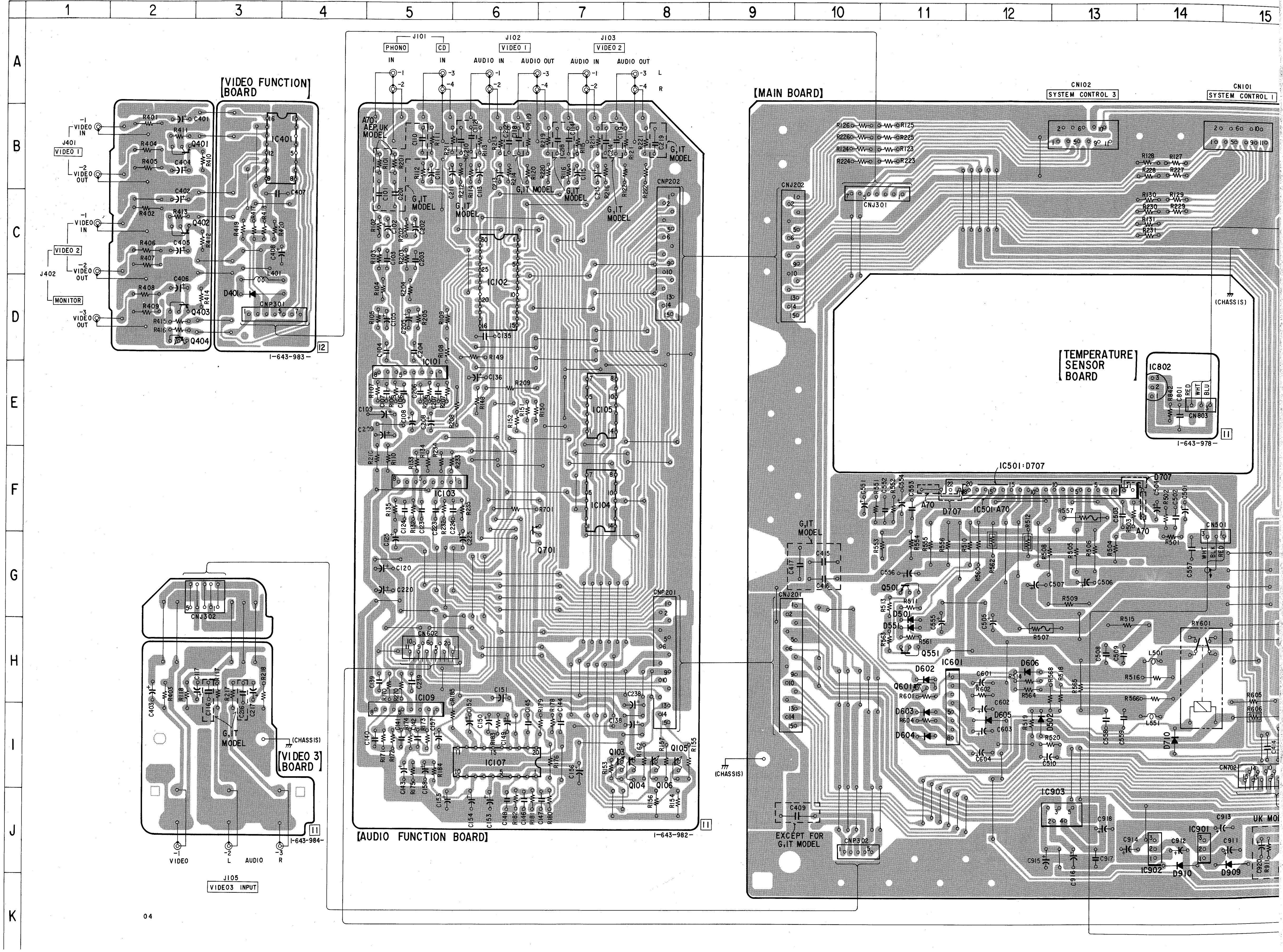
Ref. No.	Location	Ref. No.	Location
D101	B-27	IC301	J-25
D401	D-3	IC401	B-3
D501	H-11	IC501	F-12
D502	I-12	IC601	H-11
D551	H-11	IC701	G-26
D602	H-11	IC702	F-32
D603	I-11	IC703	F-35
D604	I-11	IC704	E-34
D605	I-12	IC705	E-36
D606	H-12	IC706	G-28
D701	B-27	IC707	G-32
D702	D-24	IC801	E-16
D703	E-24	IC802	E-14
D704	B-33	IC901	J-14
D705	B-32	IC902	J-14
D706	B-32	IC903	J-13
D707	D-32	IC904(※1)	J-15
D708	D-32		
D709	D-31	Q102	C-29
D710	I-14	Q103	I-7
D711	G-27	Q104	I-8
D712	B-16	Q105	I-8
D713	G-26	Q106	I-8
D714	G-32	Q107	C-27
D715	C-31	Q108	C-28
D716	G-25	Q109	C-26
D717	G-25	Q110	D-29
D718	H-25	Q111	B-28
D719	G-32	Q112	C-28
D720	F-28	Q202	C-29
D721	F-28	Q401	B-2
D722	F-27	Q402	C-2
D723	B-28	Q403	D-2
D724	G-27	Q404	D-2
D725	I-16	Q501	G-11
D801	D-16	Q551	H-11
D802	D-16	Q601	H-11
D804	D-16	Q701	G-6
D901	I-17	Q702	H-32
D902	H-21	Q703	B-27
D903	H-22	Q704	C-31
D904	H-21	Q705	B-34
D905	H-19	Q706	G-27
D906	H-20	Q707	G-26
D907	H-19	Q801	D-16
D908	H-20	Q802	D-17
D909	J-15	Q901	G-22
D910	J-14		
D911(※1)	J-16		
IC101	E-5		
IC102	D-6		
IC103	F-5		
IC104	F-7		
IC105	E-7		
IC106	C-28		
IC107	I-6		
IC108	D-26		
IC109	I-5		
IC110	C-26		

※1: Use on UK model.

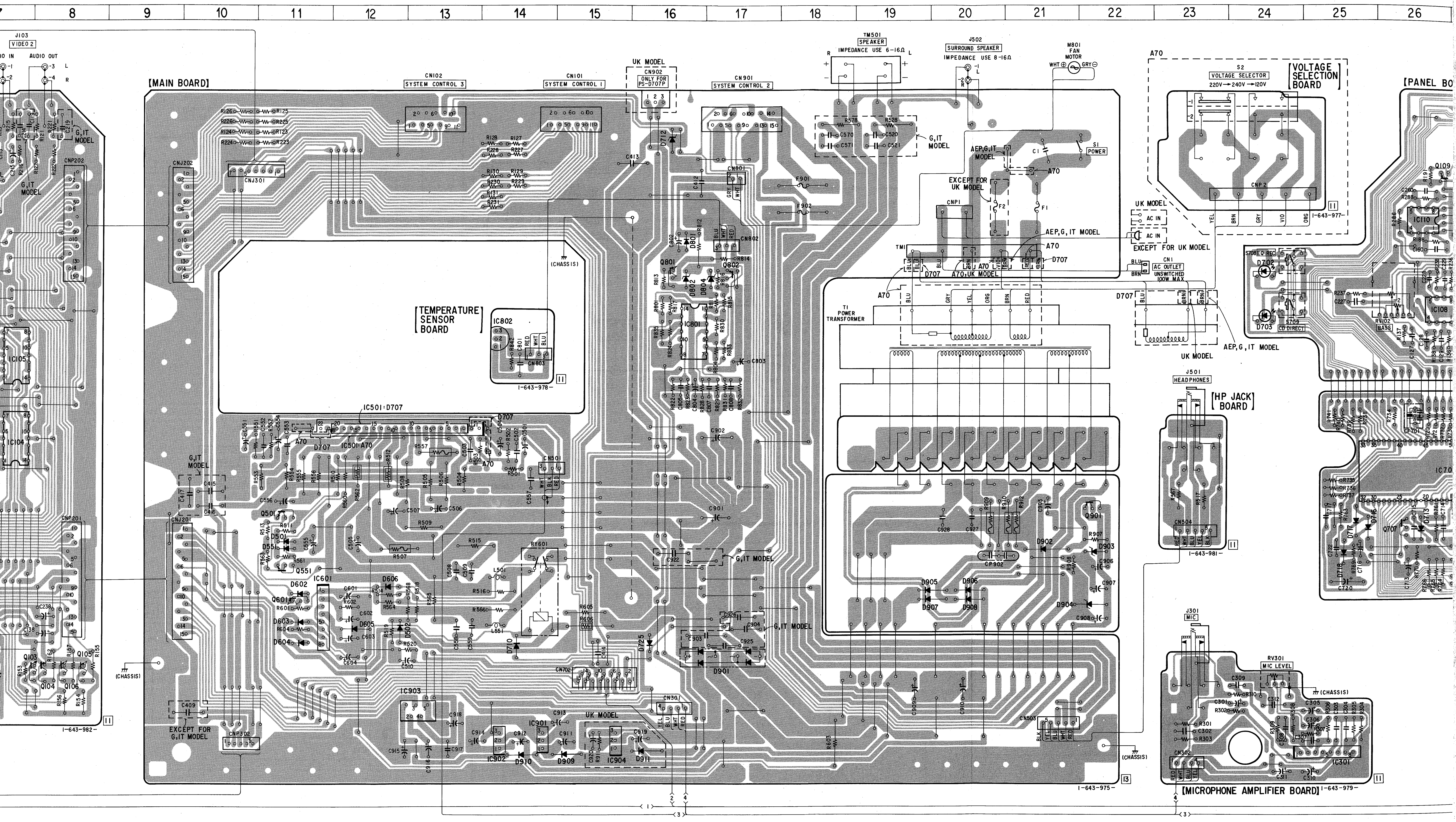
Note:

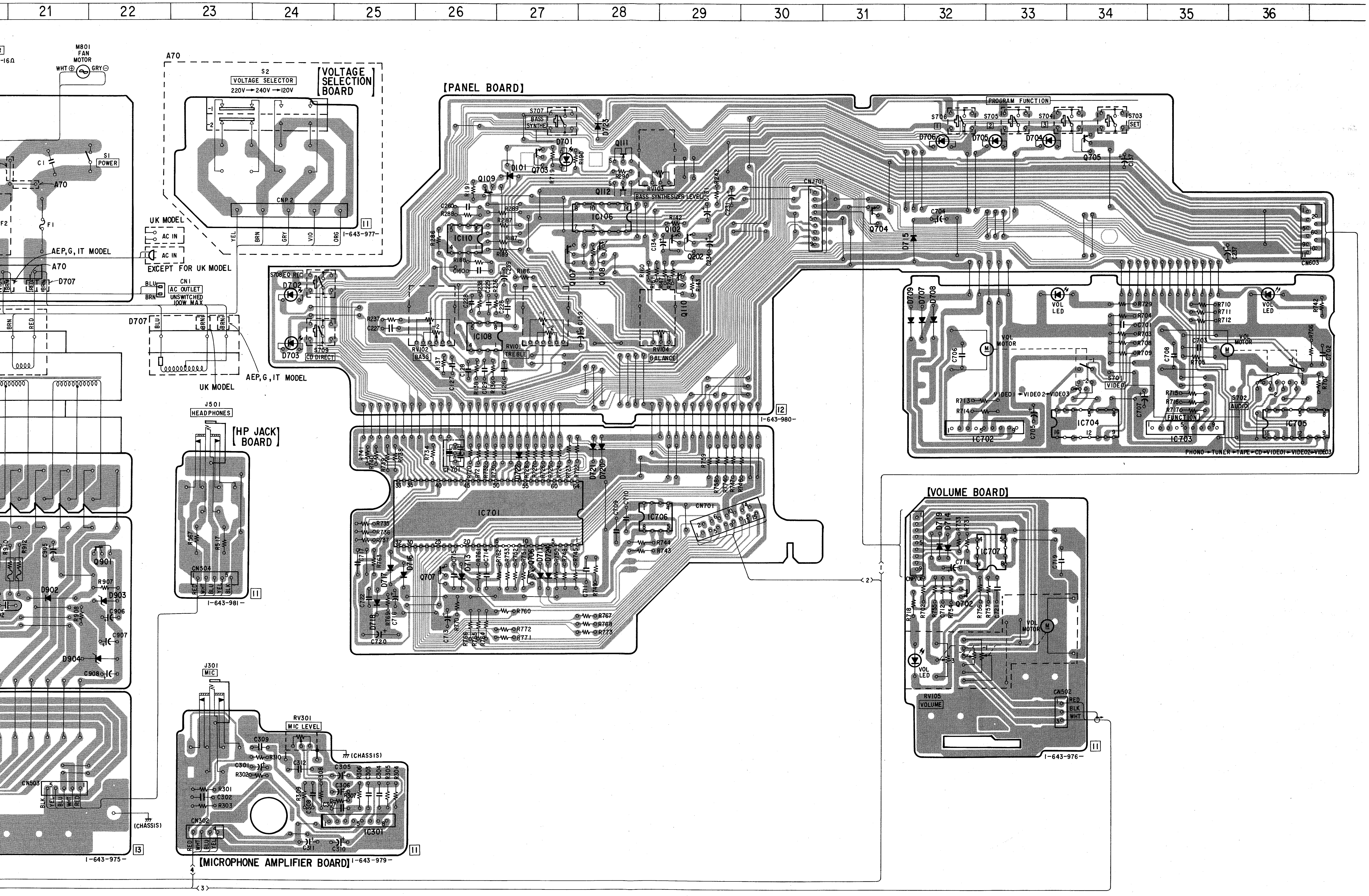
- ○—— : parts extracted from the component side.
- G : Germany model
  IT: Italian model

4-3. PRINTED WIRING BOARDS • Refor to page 20 for Semiconductor Lead Layouts.

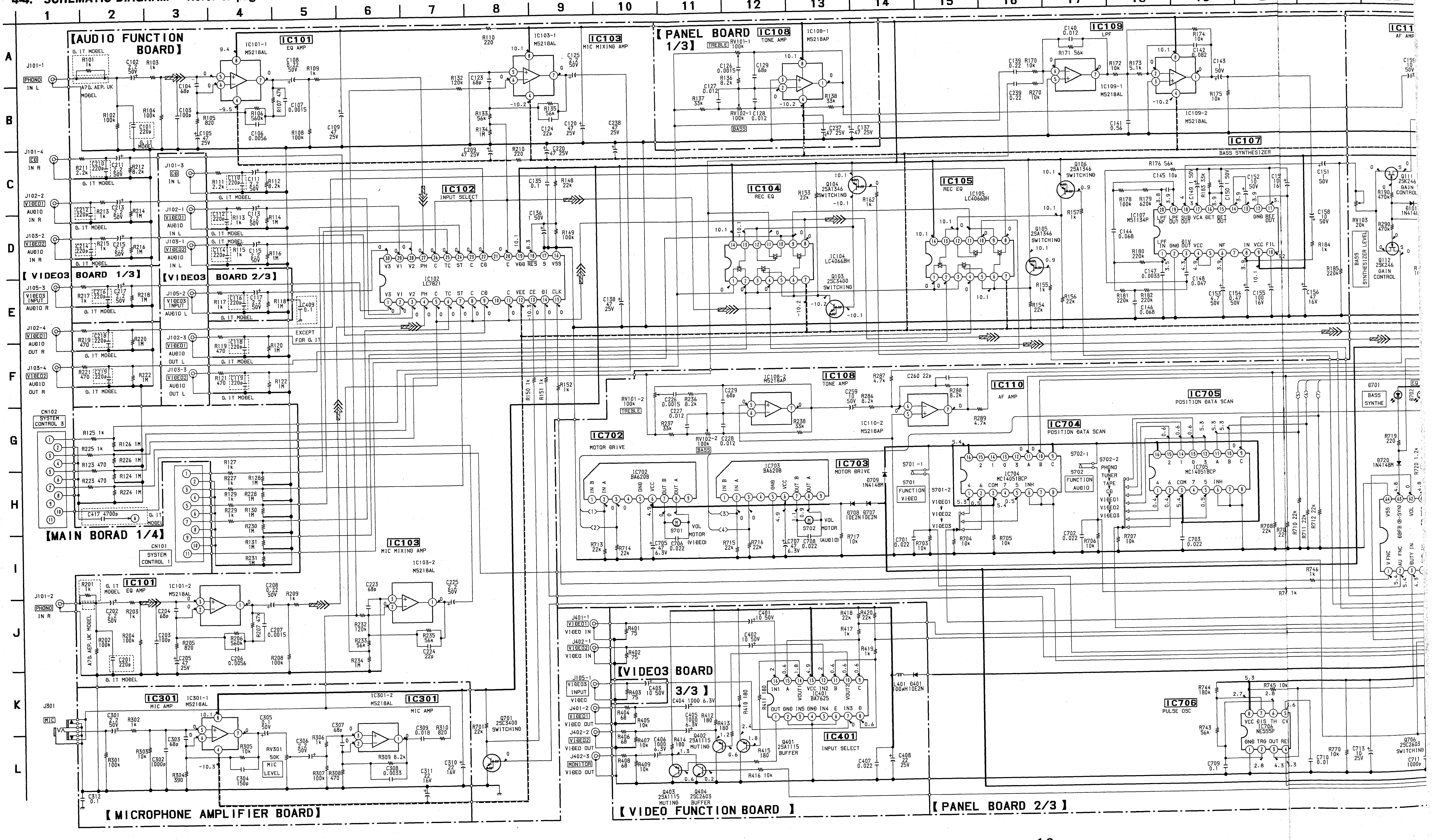


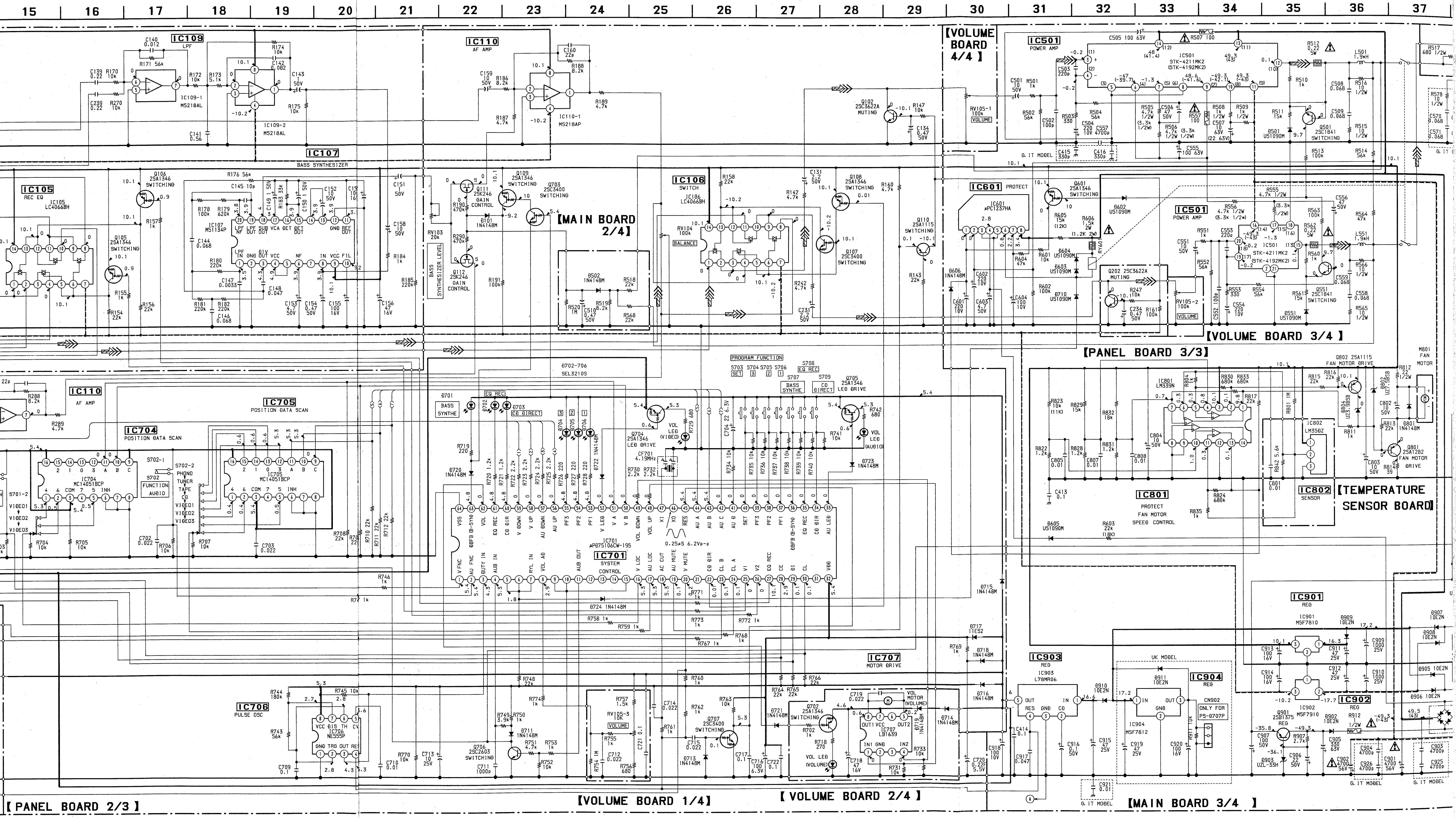
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
A B C D E F G H I J K
VIDEO FUNCTION BOARD
J401
VIDEO 1
VIDEO 2
J402
MONITOR
VIDEO IN
VIDEO OUT
IC401
Q401
Q402
Q403
Q404
D401
CNP301
1-643-983-
J101
PHONO
CD
IN
J102
VIDEO 1
J103
VIDEO 2
AUDIO IN
AUDIO OUT
L
R
AEP,UK MODEL
G,IT MODEL
IC101
IC102
IC103
IC104
IC105
IC107
IC109
Q103
Q104
Q105
Q106
Q701
CNP201
CNP202
CN602
AUDIO FUNCTION BOARD
1-643-982-
CNJ302
G,IT MODEL
(CHASSIS)
VIDEO 3 BOARD
1-643-984-
VIDEO
L AUDIO R
J105
VIDEO3 INPUT
04
MAIN BOARD
CN102
SYSTEM CONTROL 3
CN101
SYSTEM CONTROL 1
CNJ202
CNJ301
CNJ201
CNP302
TEMPERATURE SENSOR BOARD
IC802
CN803
1-643-978-
IC501:D707
IC501
IC601
IC901
IC902
IC903
Q501
Q551
Q601
D501
D502
D551
D602
D603
D604
D605
D606
D707
D909
D910
RY601
CN501
CN702
EXCEPT FOR G,IT MODEL
UK MOD

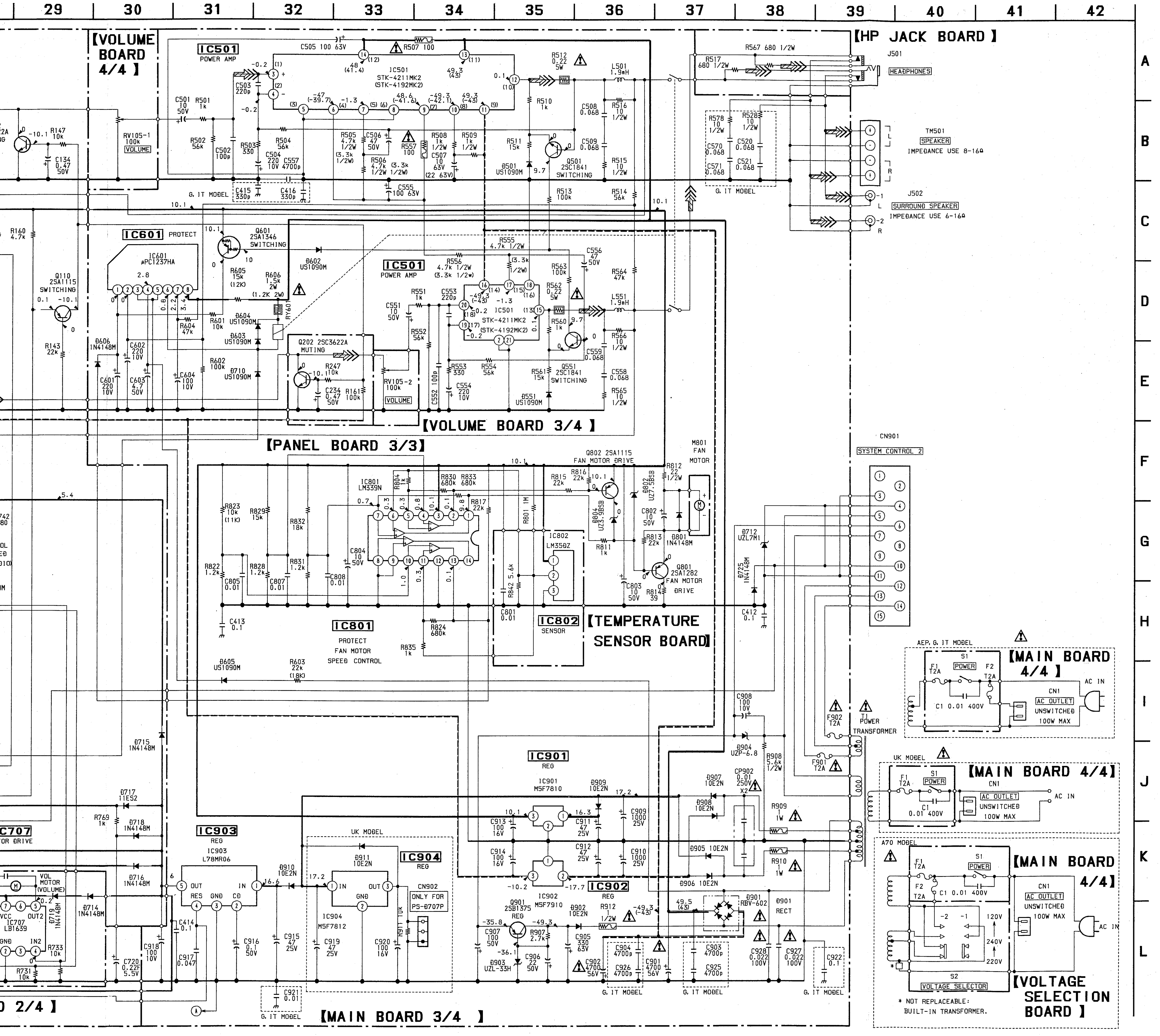

[MAIN BOARD]
[TEMPERATURE SENSOR BOARD]
[VOLTAGE SELECTION BOARD]
[HP JACK BOARD]
[MICROPHONE AMPLIFIER BOARD]
[PANEL BO
J103 VIDEO 2
AUDIO OUT
CN102 SYSTEM CONTROL 3
CN101 SYSTEM CONTROL 1
UK MODEL
CN902 ONLY FOR PS-D707P
CN901 SYSTEM CONTROL 2
TM501 SPEAKER
IMPEDANCE USE 6–16Ω
J502 SURROUND SPEAKER
IMPEDANCE USE 8–16Ω
M801 FAN MOTOR
WHT⊕ GRY⊖
A70
S2 VOLTAGE SELECTOR
220V→240V→120V
S1 POWER
G,IT MODEL
AEP,G,IT MODEL
EXCEPT FOR UK MODEL
A70,UK MODEL
T1 POWER TRANSFORMER
CN1 AC OUTLET UNSWITCHED 100W MAX
AC IN
J501 HEADPHONES
J301 MIC
RV301 MIC LEVEL
(CHASSIS)
IC501·D707
EXCEPT FOR G,IT MODEL
1-643-982-
1-643-978-
1-643-975-
1-643-977-
1-643-981-
1-643-979-


21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
M801 FAN MOTOR
WHT
GRY
A70
S2 VOLTAGE SELECTOR
220V → 240V → 120V
[VOLTAGE SELECTION BOARD]
CNP2
YEL
BRN
GRY
VIO
ORG
1-643-977-
S1 POWER
F1
F2
C1
AEP,G,IT MODEL
D707
UK MODEL
AC IN
EXCEPT FOR UK MODEL
CN1 AC OUTLET UNSWITCHED 100W MAX
BLU
BRN
RED
AEP,G,IT MODEL
[PANEL BOARD]
S707 BASS SYNTHE
D723
D701
Q703
D101
Q109
Q111
Q112
R290
RV103 BASS SYNTHESIZER LEVEL
IC106
IC110
Q102
Q202
Q107
Q108
Q110
CN701
Q704
D715
S708 EQ REC
D702
D703
S709 CD DIRECT
RV102 BASS
IC108
RV101 TREBLE
RV104 BALANCE
PROGRAM FUNCTION
S706
S705
S704
S703 SET
D706
D705
D704
Q705
C704
CN603
1-643-980-
IC701
IC706
CN701
Q707
D717
D718
D716
D713
D722
D711
D712
D721
D720
R760
R767
R768
R773
R772
R771
C720
D709
D707
D708
VOL LED
VOL MOTOR
S701 VIDEO
VIDEO1
VIDEO2
VIDEO3
IC702
IC704
IC703
FUNCTION
S702 AUDIO
IC705
PHONO → TUNER → TAPE → CD → VIDEO1 → VIDEO2 → VIDEO3
J501 HEADPHONES
[HP JACK BOARD]
CN504
RED
WHT
BLU
YEL
BLK
1-643-981-
D901
D902
D903
D904
R907
C906
C907
C908
CN503
(CHASSIS)
1-643-975-
J301 MIC
RV301 MIC LEVEL
(CHASSIS)
C309
R310
C301
R302
C312
C305
R301
C302
R303
IC301
CN302
C311
C310
[MICROPHONE AMPLIFIER BOARD]
1-643-979-
[VOLUME BOARD]
D719
D714
IC707
CN702
C718
C719
Q702
R718
VOL LED
VOL MOTOR
RV105 VOLUME
CN502
RED
BLK
WHT
1-643-976-
(2)
(3)

4-4. SCHEMATIC DIAGRAM • Refer to page 22 for IC Block Diagrams.


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
A B C D E F G H I J K L
【AUDIO FUNCTION BOARD】
【PANEL BOARD 1/3】
【VIDEO3 BOARD 1/3】
【VIDEO3 BOARD 2/3】
【MAIN BORAD 1/4】
【MICROPHONE AMPLIFIER BOARD】
【VIDEO3 BOARD 3/3】
【VIDEO FUNCTION BOARD】
【PANEL BOARD 2/3】
IC101 EQ AMP
IC101-1 M5218AL
IC103 MIC MIXING AMP
IC103-1 M5218AL
IC108 TONE AMP
IC108-1 M5218AP
IC109 LPF
IC109-1 M5218AL
IC109-2 M5218AL
IC107 BASS SYNTHESIZER
IC107 M51134P
IC102 INPUT SELECT
IC102 LC7821
IC104 REC EQ
IC104 LC4066BH
IC105 REC EQ
IC105 LC4066BH
Q104 2SA1346 SWITCHING
Q103 2SC3400 SWITCHING
Q105 2SA1346 SWITCHING
Q106 2SA1346 SWITCHING
Q111 2SK246 GAIN CONTROL
Q112 2SK246 GAIN CONTROL
RV103 20k BASS SYNTHESIZER LEVEL
IC108-2 M5218AP
IC108 TONE AMP
IC110 AF AMP
IC110-2 M5218AP
RV101-1 100k TREBLE
RV102-1 100k BASS
RV101-2 100k TREBLE
RV102-2 100k BASS
IC702 MOTOR DRIVE
IC702 BA6208
IC703 MOTOR DRIVE
IC703 BA6208
IC704 POSITION DATA SCAN
IC704 MC14051BCP
IC705 POSITION DATA SCAN
IC705 MC14051BCP
IC706 PULSE OSC
IC706 NE555P
S701 FUNCTION VIDEO
S702 FUNCTION AUDIO
M S701 VOL MOTOR (VIDEO)
M S702 VOL MOTOR (AUDIO)
J101-1 PHONO IN L
J101-2 PHONO IN R
J101-3 CD IN L
J101-4 CD IN R
J102-1 VIDEO1 AUDIO IN L
J102-2 VIDEO1 AUDIO IN R
J102-3 VIDEO1 AUDIO OUT L
J102-4 VIDEO1 AUDIO OUT R
J103-1 VIDEO2 AUDIO IN L
J103-2 VIDEO2 AUDIO IN R
J103-3 VIDEO2 AUDIO OUT L
J103-4 VIDEO2 AUDIO OUT R
J105-2 VIDEO3 INPUT AUDIO L
J105-3 VIDEO3 INPUT AUDIO R
CN102 SYSTEM CONTROL 3
CN101 SYSTEM CONTROL 1
G. IT MODEL
A70, AEP, UK MODEL
EXCEPT FOR G. IT
IC103-2 M5218AL MIC MIXING AMP
IC101-2 M5218AL EQ AMP
IC301 MIC AMP
IC301-1 M5218AL
IC301-2 M5218AL
J301 MIC
RV301 50K MIC LEVEL
Q701 2SC3400 SWITCHING
J401-1 VIDEO1 VIDEO IN
J402-1 VIDEO2 VIDEO IN
J105-1 VIDEO3 INPUT VIDEO
J401-2 VIDEO1 VIDEO OUT
J402-2 VIDEO2 VIDEO OUT
J402-3 MONITOR VIDEO OUT
IC401 INPUT SELECT
IC401 BA7625
Q401 2SA1115 BUFFER
Q402 2SA1115 MUTING
Q403 2SA1115 MUTING
Q404 2SC2603 BUFFER
L401 100μH
D401 10E2N
Q706 2SC2603 SWITCHING
D701 BASS SYNTHE
D720 1N4148M
D709 1N4148M
D708 D707 10E2N 10E2N
PHONO TUNER TAPE CD VIDEO1 VIDEO2 VIDEO3
IC11 AF AMP


15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
IC109
LPF
IC109-1
M5218AL
IC109-2
M5218AL
IC110
AF AMP
IC110-1
M5218AP
IC107
BASS SYNTHESIZER
IC105
REC EQ
IC105
LC4066BH
IC107
M51134P
Q106
2SA1346
SWITCHING
Q105
2SA1346
SWITCHING
Q111
2SK246
GAIN
CONTROL
Q112
2SK246
GAIN
CONTROL
Q109
2SA1346
SWITCHING
Q703
2SC3400
SWITCHING
RV103
20k
BASS
SYNTHESIZER LEVEL
【MAIN BOARD
2/4】
IC106
SWITCH
IC106
LC4066BH
RV104
100k
BALANCE
Q108
2SA1346
SWITCHING
Q107
2SC3400
SWITCHING
Q102
2SC3622A
MUTING
Q110
2SA1115
SWITCHING
【VOLUME
BOARD
4/4】
RV105-1
100k
VOLUME
IC501
POWER AMP
IC501
STK-4211MK2
(STK-4192MK2)
Q501
2SC1841
SWITCHING
IC601
PROTECT
IC601
μPC1237HA
Q601
2SA1346
SWITCHING
Q202 2SC3622A
MUTING
RV105-2
100k
VOLUME
Q551
2SC1841
SWITCHING
【VOLUME BOARD 3/4】
【PANEL BOARD 3/3】
IC110
AF AMP
IC705
POSITION DATA SCAN
IC704
POSITION DATA SCAN
IC704
MC14051BCP
IC705
MC14051BCP
S702
FUNCTION
AUDIO
PHONO
TUNER
TAPE
CD
VIDEO1
VIDEO2
VIDEO3
D702-706
SEL3210S
D701
BASS
SYNTHE
EQ REC
D703
CD DIRECT
Q704
2SA1346
LED DRIVE
VOL
LED
(VIDEO)
CF701
4.19MHz
PROGRAM FUNCTION
S703 S704 S705 S706
SET 3 2 1
S707
BASS
SYNTHE
S708
EQ REC
S709
CD
DIRECT
Q705
2SA1346
LED DRIVE
VOL
LED
(AUDIO)
IC701
μPD75106CW-195
IC701
SYSTEM
CONTROL
0.25×5 6.2Vp-p
IC801
LM339N
IC801
PROTECT
FAN MOTOR
SPEED CONTROL
IC802
LM3502
IC802
SENSOR
【TEMPERATURE
SENSOR BOARD】
M801
FAN
MOTOR
Q802 2SA1115
FAN MOTOR DRIVE
Q801
2SA1282
FAN MOTOR
DRIVE
IC706
PULSE OSC
IC706
NE555P
Q706
2SC2603
SWITCHING
RV105-3
10k
VOLUME
Q707
2SC3400
SWITCHING
Q702
2SA1346
SWITCHING
VOL LED
(VOLUME)
IC707
MOTOR DRIVE
IC707
LB1639
VOL
MOTOR
(VOLUME)
IC903
REG
IC903
L78MR06
UK MODEL
IC904
REG
IC904
M5F7812
CN902
ONLY FOR
PS-D707P
IC901
REG
IC901
M5F7810
IC902
REG
IC902
M5F7910
Q901
2SB1375
REG
G. IT MODEL
【PANEL BOARD 2/3】
【VOLUME BOARD 1/4】
【VOLUME BOARD 2/4】
【MAIN BOARD 3/4】


29
30
31
32
33
34
35
36
37
38
39
40
41
42
A
B
C
D
E
F
G
H
I
J
K
L
【VOLUME BOARD 4/4】
IC501 POWER AMP
IC501 STK-4211MK2 (STK-4192MK2)
【HP JACK BOARD】
J501 HEADPHONES
TM501 SPEAKER IMPEDANCE USE 8-16Ω
J502 SURROUND SPEAKER IMPEDANCE USE 6-16Ω
IC601 PROTECT
IC601 μPC1237HA
Q601 2SA1346 SWITCHING
Q202 2SC3622A MUTING
RV105-1 VOLUME
RV105-2 VOLUME
Q501 2SC1841 SWITCHING
Q551 2SC1841 SWITCHING
【VOLUME BOARD 3/4】
【PANEL BOARD 3/3】
IC801 LM339N
IC801 PROTECT FAN MOTOR SPEED CONTROL
IC802 LM3502
IC802 SENSOR
【TEMPERATURE SENSOR BOARD】
Q802 2SA1115 FAN MOTOR DRIVE
Q801 2SA1282 FAN MOTOR DRIVE
M801 FAN MOTOR
CN901 SYSTEM CONTROL 2
IC707 MOTOR DRIVE
VOL MOTOR (VOLUME)
IC707 LB1639
IC903 REG IC903 L78MR06
IC904 REG IC904 MSF7812
UK MODEL
CN902 ONLY FOR PS-0707P
IC901 REG IC901 MSF7810
IC902 REG IC902 MSF7910
Q901 2SB1375 REG
D901 RBV-602 RECT
T1 POWER TRANSFORMER
G. IT MODEL
【MAIN BOARD 3/4】
2/4】
AEP, G, IT MODEL
【MAIN BOARD 4/4】
S1 POWER
CN1 AC OUTLET UNSWITCHED 100W MAX
AC IN
UK MODEL
【MAIN BOARD 4/4】
A70 MODEL
【MAIN BOARD 4/4】
S2 VOLTAGE SELECTOR
120V 240V 220V
【VOLTAGE SELECTION BOARD】
* NOT REPLACEABLE: BUILT-IN TRANSFORMER.

Note:

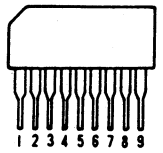
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : nonflammable resistor.
- ∿ : fusible resistor.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

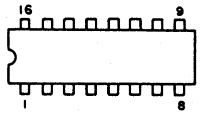
- ▬ : B+ Line
- ▬ ▬ : B– Line
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : POWER ON
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇒ : PHONO
- G : Germany model
  IT : Italian model

4-5. SEMICONDUCTOR LEAD LAYOUTS

BA6208

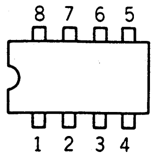


BA7625
MC14051BCP



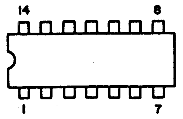
(TOP VIEW)

LB1639
M5218AP-22
NJM555D



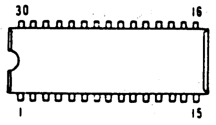
(Top view)

LC4966
LM339N



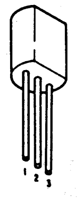
(TOP VIEW)

LC7821



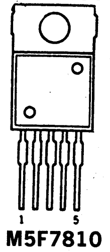
(Top view)

LM35DZ-SL

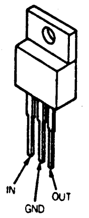


Pin 1 Vcc
2 OUTPUT
3 GND

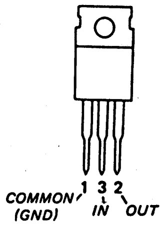
L78MR06



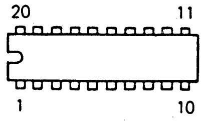
M5F7810
M5F7812L



M5F7910

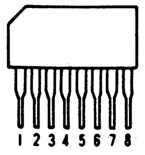

COMMON (GND)
1 3 2
IN
OUT

M51134P

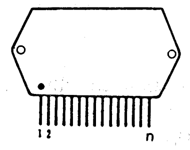


(Top view)

M5218AL
M5218AL-22
μPC1237HA

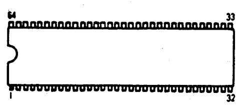


STK-4192MK2
STK-4211MK2



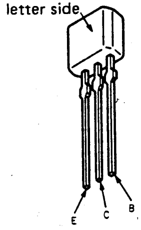
MARKING SIDE VIEW

μPD75106CW-195

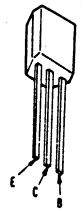


(Top view)

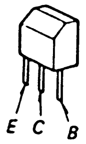
DTA124ES
2SA1175-HFE


letter side
E
C
B

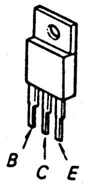
DTC124ES
2SC1815-Y
2SC2603-EF
2SC3622A-LK



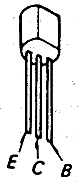
2SB733-5



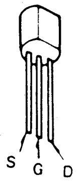
2SB1094-LK



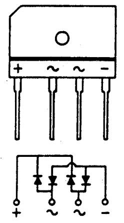
2SC1841-PAFAEA



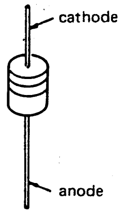
2SK246-GR



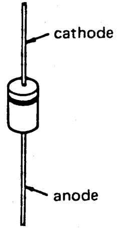
RBV-602-01



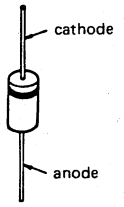
UZ-3.9BSB
UZ-7.5BSB
UZL-33H
UZL-7M1
UZP-6.8BC
11ES2


cathode
anode

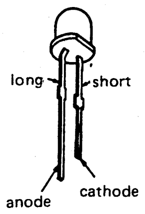
UZ-7.5BSB


cathode
anode

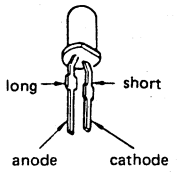
1N4148M
1S1585
10E2N


cathode
anode

SEL2210S

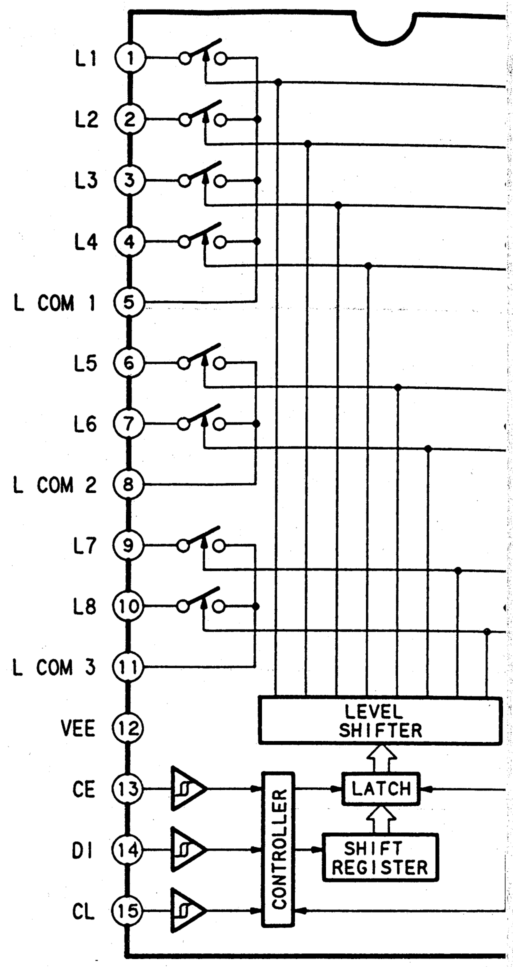

long
short
anode
cathode

SEL3210S-CD

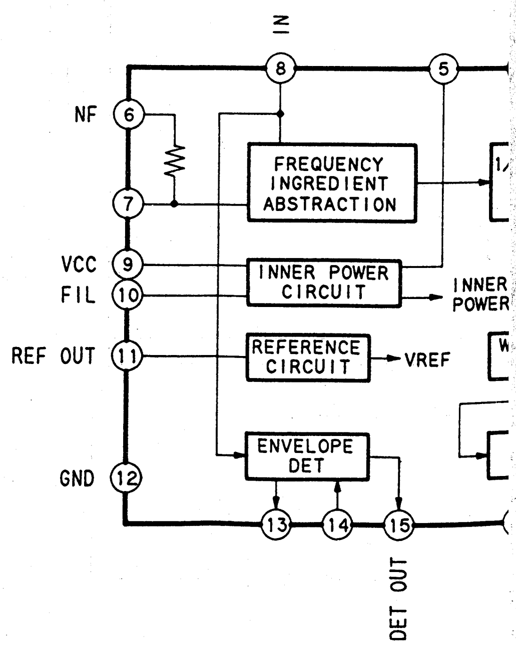

long
short
anode
cathode

• IC Block Diagrams

IC102 LC7821

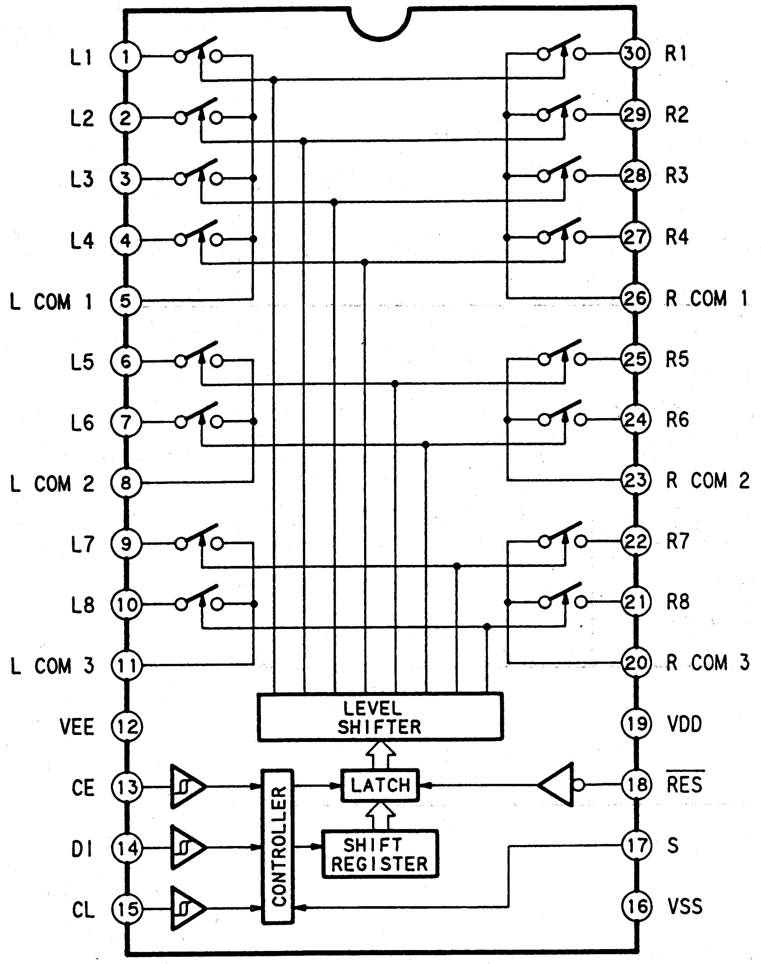

L1 ①
L2 ②
L3 ③
L4 ④
L COM 1 ⑤
L5 ⑥
L6 ⑦
L COM 2 ⑧
L7 ⑨
L8 ⑩
L COM 3 ⑪
VEE ⑫
CE ⑬
DI ⑭
CL ⑮
LEVEL SHIFTER
LATCH
SHIFT REGISTER
CONTROLLER

IC107 M51134P

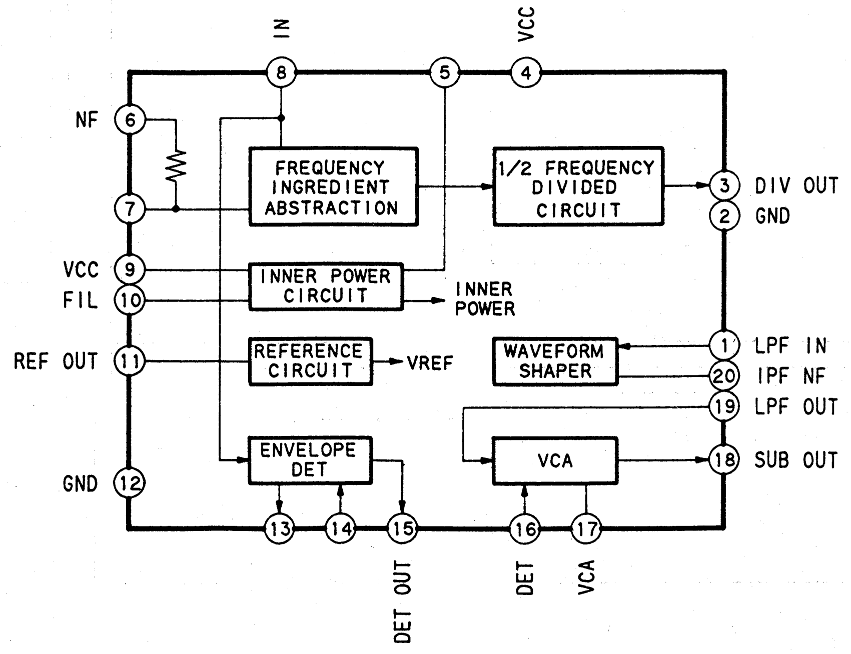

IN
⑧
⑤
NF ⑥
⑦
FREQUENCY INGREDIENT ABSTRACTION
1/
VCC ⑨
FIL ⑩
INNER POWER CIRCUIT
INNER POWER
REF OUT ⑪
REFERENCE CIRCUIT
VREF
GND ⑫
ENVELOPE DET
⑬
⑭
⑮
DET OUT

- **IC Block Diagrams**

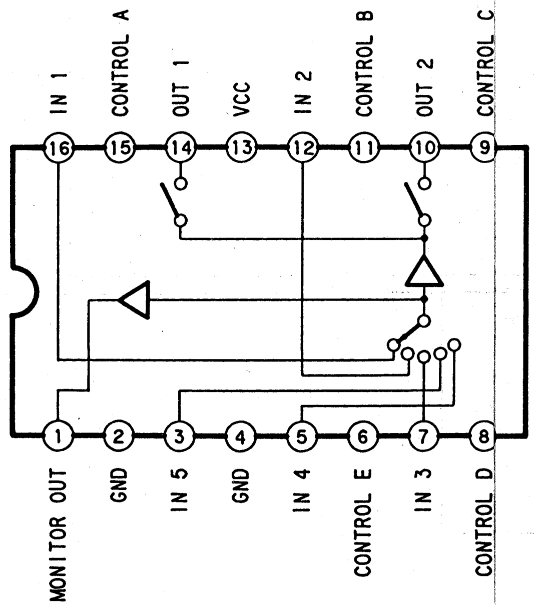
IC102 LC7821


L1 1
L2 2
L3 3
L4 4
L COM 1 5
L5 6
L6 7
L COM 2 8
L7 9
L8 10
L COM 3 11
VEE 12
CE 13
DI 14
CL 15
30 R1
29 R2
28 R3
27 R4
26 R COM 1
25 R5
24 R6
23 R COM 2
22 R7
21 R8
20 R COM 3
19 VDD
18 RES
17 S
16 VSS
LEVEL SHIFTER
LATCH
SHIFT REGISTER
CONTROLLER

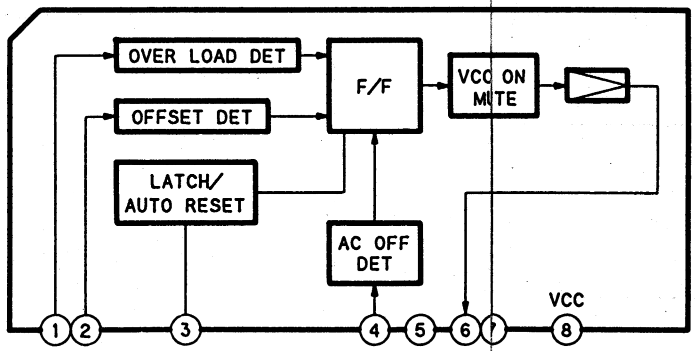
IC107 M51134P


IN 8
5
VCC 4
NF 6
7
VCC 9
FIL 10
REF OUT 11
GND 12
FREQUENCY INGREDIENT ABSTRACTION
1/2 FREQUENCY DIVIDED CIRCUIT
3 DIV OUT
2 GND
INNER POWER CIRCUIT
INNER POWER
REFERENCE CIRCUIT
VREF
WAVEFORM SHAPER
1 LPF IN
20 IPF NF
19 LPF OUT
ENVELOPE DET
VCA
18 SUB OUT
13
14
15 DET OUT
16 DET
17 VCA

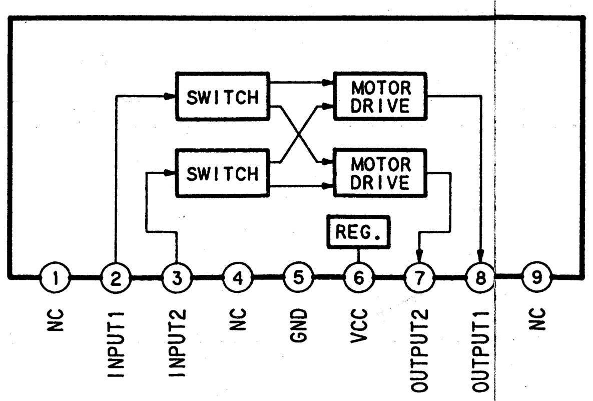
IC401 BA7625


IN 1 16
CONTROL A 15
OUT 1 14
VCC 13
IN 2 12
CONTROL B 11
OUT 2 10
CONTROL C 9
1 MONITOR OUT
2 GND
3 IN 5
4 GND
5 IN 4
6 CONTROL E
7 IN 3
8 CONTROL D

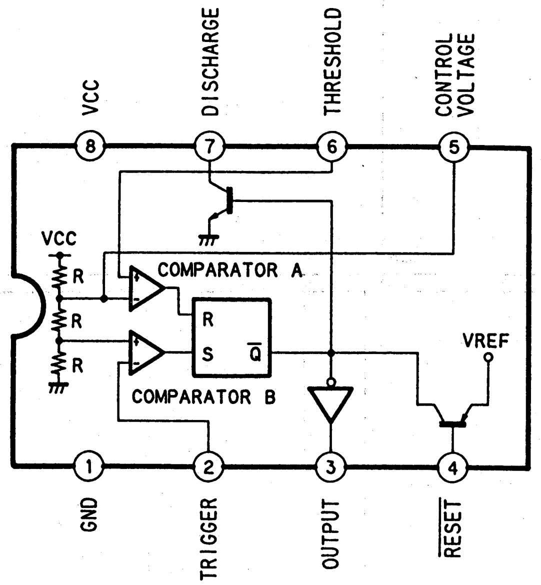
IC601 μPC1237HA


OVER LOAD DET
OFFSET DET
LATCH/ AUTO RESET
F/F
AC OFF DET
VCC ON MUTE
VCC
1
2
3
4
5
6
7
8

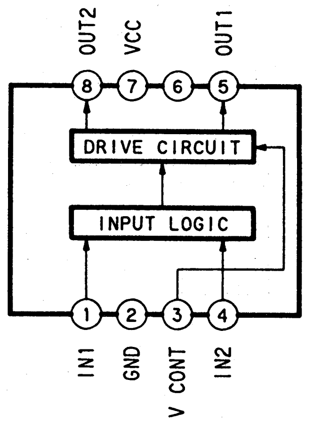
IC702, 703 BA6208

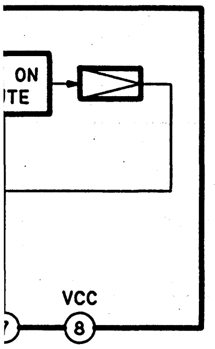

SWITCH
SWITCH
MOTOR DRIVE
MOTOR DRIVE
REG.
1 NC
2 INPUT1
3 INPUT2
4 NC
5 GND
6 VCC
7 OUTPUT2
8 OUTPUT1
9 NC

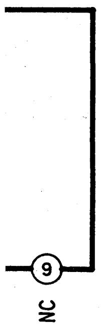
IC706 NE555P


VCC 8
DISCHARGE 7
THRESHOLD 6
CONTROL VOLTAGE 5
VCC
R
R
R
COMPARATOR A
COMPARATOR B
R
S
Q̄
VREF
1 GND
2 TRIGGER
3 OUTPUT
4 RESET

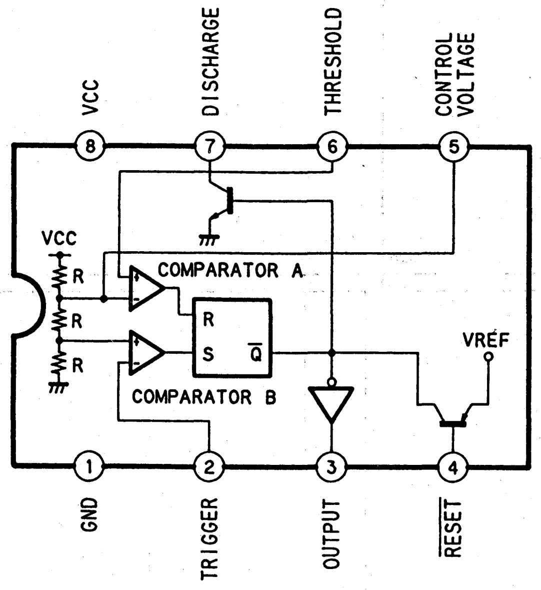
IC707 LB1639


OUT2 8
VCC 7
6
OUT1 5
DRIVE CIRCUIT
INPUT LOGIC
1 IN1
2 GND
3 V CONT
4 IN2

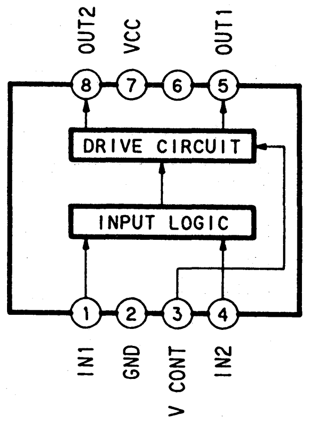




IC706 NE555P


VCC
DISCHARGE
THRESHOLD
CONTROL VOLTAGE
8
7
6
5
VCC
R
R
R
COMPARATOR A
R
S
Q̄
COMPARATOR B
VREF
1
2
3
4
GND
TRIGGER
OUTPUT
RESET

IC707 LB1639


OUT2
VCC
OUT1
8
7
6
5
DRIVE CIRCUIT
INPUT LOGIC
1
2
3
4
IN1
GND
V CONT
IN2

4-6. PINS DESCRIPTION OF IC701 (μPD75106CW-195)

Pin No.	Pin Name	I/O	Pin Description
1	V FNC	I	Video rotary function encode pulse input (INT3)
2	AU FNC	I	Audio rotary function encode pulse input (INT2)
3	DUTY IN	I	Rotary switch rotation control duty pulse input (INT1)
4	AUB IN	I	AU BUS IN (INT0)
5	NC	I	N. C (Connect to pin ⑦)
6	NC	I	N. C (Connect to pin ⑦)
7	RYL IN	I	Relay IN
8	VOL AD	I	Volume position detect
9	NC	I	N. C (GND)
10	NC	I	N. C (GND)
11	AUB OUT	O	AU BUS OUT
12	NC	O	N. C
13	NC	O	N. C
14	NC	O	N. C
15	NC	I	N. C (GND)
16	V LOC	I	Video rotary function position pulse input
17	AU LOC	I	Audio rotary function position pulse input
18	AC CUT	I	AC CUT
19	AU MUTE	O	Mute
20	V MUTE	O	Video mute
21	NC	O	N. C
22	CD DIR	O	CD DIRECT ON/OFF
23	CL B	O	Video input select control B
24	CL A	O	Video input select control A
25	V1	O	Video REC output control 1
26	V2	O	Video REC output control 0
27	EQ REC	O	EQ REC ON/OFF
28	CE	O	LC7821 CE (LATCH)
29	DI	O	LC7821 DI (DATA)
30	CL	O	LC7821 CL (CLOCK)
31	NC	—	N. C
32	VDD	—	Power supply (+5.5V)
33	AU LED	O	FUNCTION AUDIO LED
34	CD DIR	I	CD DIRECT key input
35	EQ REC	I	EQ REC key input
36	B-SYN	I	BASS SYNTHE key input
37	PF1	I	PROGRAM FUNCTION 1 key input
38	PF2	I	PROGRAM FUNCTION 2 key input
39	PF3	I	PROGRAM FUNCTION 3 key input
40	SET	I	PROGRAM FUNCTION SET key input
41	AU D	O	Audio function position detect MC14051 select signal D
42	AU C	O	Audio function position detect MC14051 select signal C
43	AU B	O	Audio function position detect MC14051 select signal B
44	AU A	O	Audio function position detect MC14051 select signal A

Pin No.	Pin Name	I/O	Pin Description
45	$\overline{\text{RES}}$	I	Reset
46	XO	—	X'tal (System clock oscillation)
47	XI	—	X'tal (System clock oscillation)
48	VOL UP	O	Volume UP output (Right turn)
49	VOL DOWN	O	Volume DOWN output (Left turn)
50	V B	O	Video function position detect MC14051 select signal B
51	V A	O	Video function position detect MC14051 select signal A
52	V LED	O	FUNCTION VIDEO LED
53	PF1	O	PROGRAM FUNCTION 1 LED
54	PF2	O	PROGRAM FUNCTION 2 LED
55	PF3	O	PROGRAM FUNCTION 3 LED
56	AU UP	O	Audio rotary function switch UP output
57	AU DOWN	O	Audio rotary function switch DOWN output
58	V UP	O	Video rotary function switch UP output
59	V DOWN	O	Video rotary function switch DOWN output
60	CD DIR	O	CD DIRECT LED
61	EQ REC	O	EQ REC LED
62	VOL	O	VOLUME LED
63	B-SYN	O	BASS SYNTHE ON/OFF & LED
64	VSS	—	GND

SECTION 5
EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts Example :

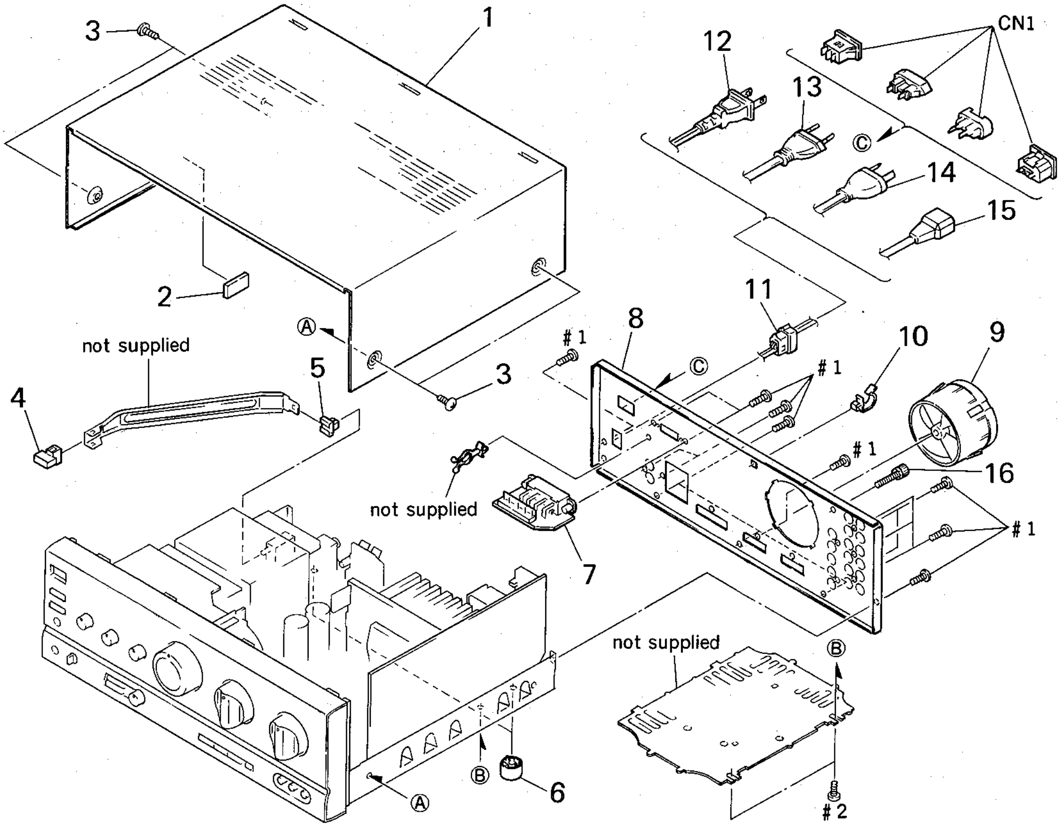
  KNOB, BALANCE (WHITE)... (RED)
  ↑ ↑
  Parts Color Cabinet's Color

- Hardware (# mark) list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

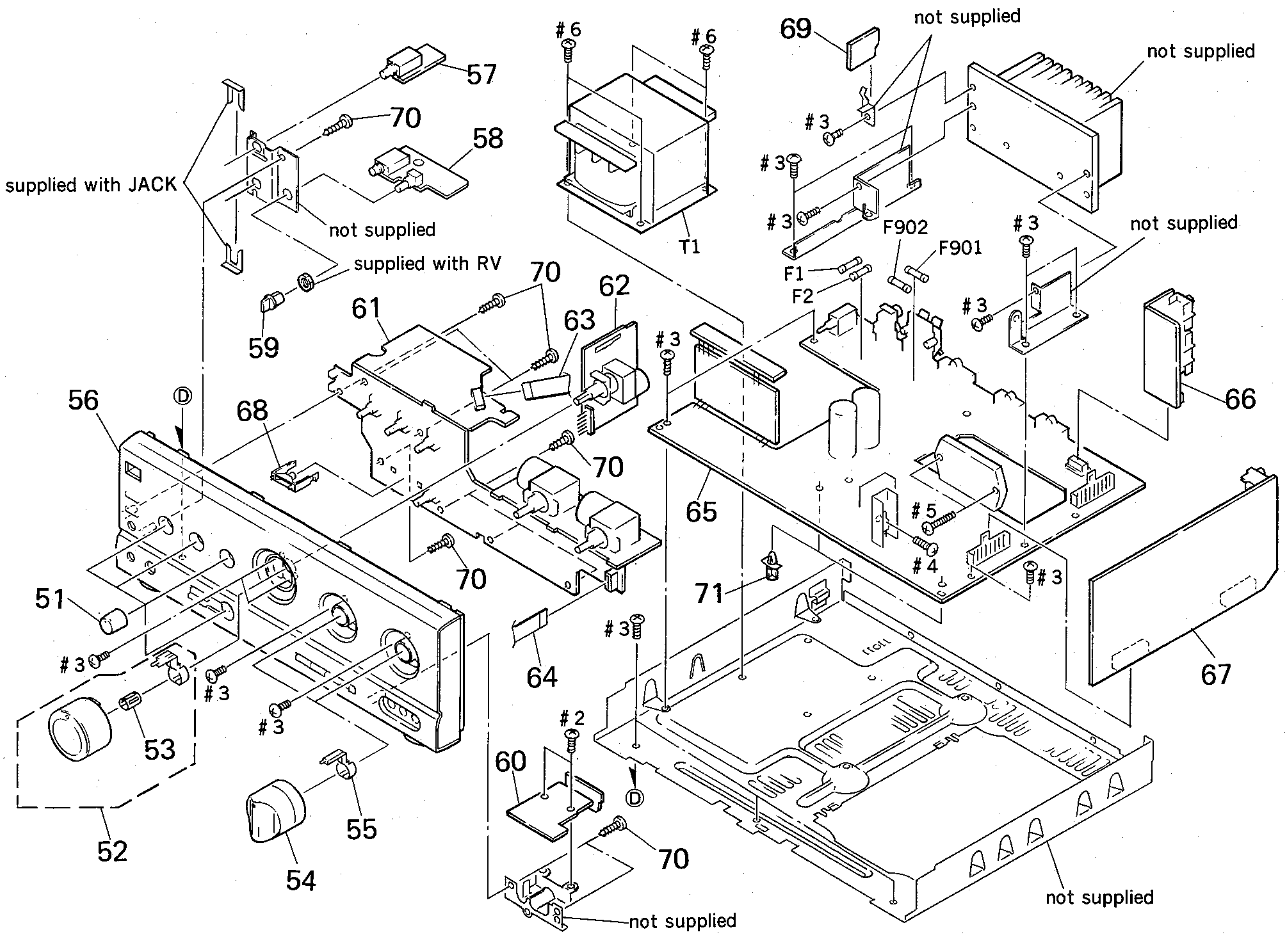
- IT : Italian model
  G : Germany model
  TR : Tourist model
  EA : Saudi Arabia model
  AUS: Australian model

5-1. CABINET SECTION



Ref. No.	Part No.	Description	Remark
* 1	4-944-980-01	CASE (IT)	
* 1	4-944-980-21	CASE (AEP, UK, G, A70)	
* 2	4-911-047-01	VIBRATION CONTROL (D)	
3	3-363-099-01	SCREW (CASE +3X8 TP2)	
4	4-942-061-01	BUTTON (P) (IT)	
4	4-942-061-11	BUTTON (P) (AEP, UK, G, A70)	
5	4-866-342-00	JOINT (B), KNOB	
6	4-931-169-01	FOOT	
* 7	1-643-977-11	VOLTAGE SELECTION BOARD (A70)	
* 8	4-953-072-11	PANEL, BACK (AEP)	
* 8	4-953-072-21	PANEL, BACK (UK)	
* 8	4-953-072-31	PANEL, BACK (G)	
* 8	4-953-072-41	PANEL, BACK (IT)	
* 8	4-953-072-51	PANEL, BACK (E, TR)	
* 8	4-953-072-61	PANEL, BACK (EA)	
* 8	4-953-072-71	PANEL, BACK (AUS)	
9	X-4942-029-1	CASE ASSY, FAN	
* 10	4-949-235-01	HOOK	
* 11	3-703-244-00	BUSHING (2104), CORD (D707, EA)	
* 11	3-703-571-11	BUSHING (S) (4516), CORD (E, AUS, TR)	
⚠12	1-575-656-11	CORD, POWER (E, TR)	
⚠13	1-575-651-11	CORD, POWER (AEP, G, IT, EA)	
⚠14	1-690-056-11	CORD, POWER (AUS)	
⚠15	1-575-669-21	CORD, POWER (UK)	
16	4-947-010-01	SCREW, FEEDER FIXED	
⚠CN1	1-526-751-00	OUTLET, AC (AC OUTLET) (UK)	
⚠CN1	1-526-794-11	OUTLET, AC (AC OUTLET) (AEP, G, IT, EA)	
⚠CN1	1-526-882-00	OUTLET, AC (AC OUTLET) (E, TR)	
⚠CN1	1-540-196-11	OUTLET, AC (AC OUTLET) (AUS)	

5-2. CHASSIS SECTION


57
70
58
supplied with JACK
not supplied
supplied with RV
59
56
Ⓓ
68
61
70
63
62
#6
#6
T1
69
not supplied
not supplied
#3
#3
#3
F902
F901
F1
F2
#3
not supplied
#3
#3
66
70
65
#5
#4
#3
67
51
#3
#3
#3
53
52
70
64
#3
71
54
55
60
#2
Ⓓ
70
not supplied
not supplied

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
51	4-950-651-01	KNOB (DIA. 16), ROUND (IT)	
51	4-950-651-11	KNOB (DIA. 16), ROUND (AEP, UK, G, A70)	
52	X-4942-417-1	KNOB ASSY, ROUND (IT)	
52	X-4942-418-1	KNOB ASSY, ROUND (AEP, UK, G, A70)	
53	3-703-466-00	SPRING (6600)	
54	4-953-073-01	KNOB (DIA. 34) (AEP, UK, G, A70)	
54	4-953-073-11	KNOB (DIA. 34) (IT)	
55	4-953-064-01	INDICATOR (F)	
56	X-4942-766-1	PANEL ASSY, FRONT (AEP, UK, G)	
56	X-4942-767-1	PANEL ASSY, FRONT (IT)	
56	X-4942-768-1	PANEL ASSY, FRONT (A70)	
* 57	1-643-981-11	HP JACK BOARD	
* 58	1-643-979-11	MICROPHONE AMPLIFIER BOARD	
59	4-950-652-01	KNOB (DIA. 12), ROUND (IT)	
59	4-950-652-11	KNOB (DIA. 12), ROUND (AEP, UK, G, A70)	
* 60	1-643-984-11	VIDEO 3 BOARD	
* 61	A-4347-735-A	PANEL BOARD, COMPLETE	
* 62	1-643-976-11	VOLUME BOARD	
63	1-575-903-11	WIRE, FLAT TYPE (15 CORE)	
64	1-590-218-11	WIRE, FLAT TYPE (11 CORE)	
* 65	A-4347-731-A	MAIN BOARD, COMPLETE (AEP)	
* 65	A-4347-742-A	MAIN BOARD, COMPLETE (UK)	
* 65	A-4347-743-A	MAIN BOARD, COMPLETE (G, IT)	
* 65	A-4347-747-A	MAIN BOARD, COMPLETE (A70)	
* 66	A-4347-738-A	VIDEO FUNCTION BOARD, COMPLETE	
* 67	A-4347-737-A	AUDIO FUNCTION BOARD, COMPLETE (AEP, UK, A70)	
* 67	A-4347-744-A	AUDIO FUNCTION BOARD, COMPLETE (G, IT)	
68	4-953-063-01	HOLDER, LED	
* 69	1-643-978-11	TEMPERATURE SENSOR BOARD	
70	4-951-620-01	SCREW (2.6X8), +BVTP	
* 71	4-912-181-21	SUPPORT, PC	
⚠F1	1-532-203-00	FUSE, TIME-LAG (T2A)	
⚠F2	1-532-203-00	FUSE, TIME-LAG (T2A) (AEP, G, IT, A70)	
⚠F901	1-532-203-00	FUSE, TIME-LAG (T2A)	
⚠F902	1-532-203-00	FUSE, TIME-LAG (T2A)	
⚠T1	1-450-913-11	TRANSFORMER, POWER (D707)	
⚠T1	1-450-914-11	TRANSFORMER, POWER (A70)	

SECTION 6
ELECTRICAL PARTS LIST

AUDIO FUNCTION **HP JACK** **PANEL** **VIDEO FUNCTION** **VIDEO 3**

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indicating parts by reference number, please include the board.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- G : Germany model
  IT : Italian model
  EA : Saudi Arabia model
  AUS: Australian model
  TR : Tourist model

Ref. No.	Part No.	Description				Remark
*	A-4347-737-A	AUDIO FUNCTION BOARD, COMPLETE (AEP, UK, A70)				
*	A-4347-744-A	AUDIO FUNCTION BOARD, COMPLETE (G, IT)				
		*************************************				
*	1-643-981-11	HP JACK BOARD				
		*************				
*	A-4347-735-A	PANEL BOARD, COMPLETE				
		*********************				
*	A-4347-738-A	VIDEO FUNCTION BOARD, COMPLETE				
		******************************				
*	1-643-984-11	VIDEO 3 BOARD				
		*************				
	4-953-063-01	HOLDER, LED				
		< CAPACITOR >				
C101	1-162-286-31	CERAMIC	220PF	10%	50V	(G, IT)
C102	1-124-257-00	ELECT	2.2uF	20%	50V	
C103	1-164-070-11	CERAMIC	100PF	5%	50V	
C104	1-164-066-11	CERAMIC	68PF	5%	50V	
C105	1-124-910-11	ELECT	47uF	20%	50V	
C106	1-130-480-00	MYLAR	0.0056uF	5%	50V	
C107	1-130-473-00	MYLAR	0.0015uF	5%	50V	
C108	1-124-464-11	ELECT	0.22uF	20%	50V	
C109	1-124-910-11	ELECT	47uF	20%	50V	
C110	1-162-286-31	CERAMIC	220PF	10%	50V	(G, IT)
C111	1-124-257-00	ELECT	2.2uF	20%	50V	
C112	1-162-286-31	CERAMIC	220PF	10%	50V	(G, IT)
C113	1-126-161-11	ELECT	2.2uF	20%	50V	
C114	1-162-286-31	CERAMIC	220PF	10%	50V	(G, IT)
C115	1-126-161-11	ELECT	2.2uF	20%	50V	
C116	1-162-286-31	CERAMIC	220PF	10%	50V	(G, IT)
C117	1-126-161-11	ELECT	2.2uF	20%	50V	
C118	1-162-286-31	CERAMIC	220PF	10%	50V	(G, IT)
C119	1-162-286-31	CERAMIC	220PF	10%	50V	(G, IT)
C120	1-124-910-11	ELECT	47uF	20%	50V	
C123	1-164-066-11	CERAMIC	68PF	5%	50V	
C124	1-164-054-11	CERAMIC	22PF	5%	50V	
C125	1-126-161-11	ELECT	2.2uF	20%	50V	
C126	1-130-473-00	MYLAR	0.0015uF	5%	50V	
C127	1-130-484-00	MYLAR	0.012uF	5%	50V	
C128	1-130-484-00	MYLAR	0.012uF	5%	50V	
C129	1-162-219-31	CERAMIC	68PF	5%	50V	
C131	1-126-161-11	ELECT	2.2uF	20%	50V	
C134	1-124-465-00	ELECT	0.47uF	20%	50V	
C135	1-164-159-11	CERAMIC	0.1uF		50V	
C136	1-126-301-11	ELECT	1uF	20%	50V	
C137	1-124-910-11	ELECT	47uF	20%	50V	
C138	1-124-910-11	ELECT	47uF	20%	50V	
C139	1-136-169-00	FILM	0.22uF	5%	50V	
C140	1-136-154-00	FILM	0.012uF	5%	50V	
C141	1-136-174-00	FILM	0.56uF	5%	50V	
C142	1-136-164-00	FILM	0.082uF	5%	50V	
C143	1-126-301-11	ELECT	1uF	20%	50V	
C144	1-136-163-00	FILM	0.068uF	5%	50V	
C145	1-164-046-11	CERAMIC	10PF	0.5PF	50V	
C146	1-136-163-00	FILM	0.068uF	5%	50V	
C147	1-130-477-00	MYLAR	0.0033uF	5%	50V	
C148	1-136-161-00	FILM	0.047uF	5%	50V	
C149	1-126-301-11	ELECT	1uF	20%	50V	
C150	1-126-301-11	ELECT	1uF	20%	50V	
C151	1-126-301-11	ELECT	1uF	20%	50V	
C152	1-126-059-11	ELECT	10uF	20%	50V	
C153	1-126-163-11	ELECT	4.7uF	20%	50V	
C154	1-126-300-11	ELECT	0.47uF	20%	50V	
C155	1-126-023-11	ELECT	100uF	20%	16V	
C156	1-126-022-11	ELECT	47uF	20%	16V	
C157	1-126-023-11	ELECT	100uF	20%	16V	
C158	1-126-059-11	ELECT	10uF	20%	50V	
C159	1-126-059-11	ELECT	10uF	20%	50V	
C160	1-162-207-31	CERAMIC	22PF	5%	50V	
C201	1-162-286-31	CERAMIC	220PF	10%	50V	(G, IT)
C202	1-124-257-00	ELECT	2.2uF	20%	50V	
C203	1-164-070-11	CERAMIC	100PF	5%	50V	
C204	1-164-066-11	CERAMIC	68PF	5%	50V	
C205	1-124-910-11	ELECT	47uF	20%	50V	
C206	1-130-480-00	MYLAR	0.0056uF	5%	50V	
C207	1-130-473-00	MYLAR	0.0015uF	5%	50V	
C208	1-124-464-11	ELECT	0.22uF	20%	50V	
C209	1-124-910-11	ELECT	47uF	20%	50V	
C210	1-162-286-31	CERAMIC	220PF	10%	50V	(G, IT)

Ref. No.	Part No.	Description			Remark
C211	1-124-257-00	ELECT	2.2uF	20%	50V
C212	1-162-286-31	CERAMIC	220PF	10%	50V (G, IT)
C213	1-126-161-11	ELECT	2.2uF	20%	50V
C214	1-162-286-31	CERAMIC	220PF	10%	50V (G, IT)
C215	1-126-161-11	ELECT	2.2uF	20%	50V
C216	1-162-286-31	CERAMIC	220PF	10%	50V (G, IT)
C217	1-126-161-11	ELECT	2.2uF	20%	50V
C218	1-162-286-31	CERAMIC	220PF	10%	50V (G, IT)
C219	1-162-286-31	CERAMIC	220PF	10%	50V (G, IT)
C220	1-124-910-11	ELECT	47uF	20%	50V
C223	1-164-066-11	CERAMIC	68PF	5%	50V
C224	1-164-054-11	CERAMIC	22PF	5%	50V
C225	1-126-161-11	ELECT	2.2uF	20%	50V
C226	1-130-473-00	MYLAR	0.0015uF	5%	50V
C227	1-130-484-00	MYLAR	0.012uF	5%	50V
C228	1-130-484-00	MYLAR	0.012uF	5%	50V
C229	1-162-219-31	CERAMIC	68PF	5%	50V
C231	1-126-161-11	ELECT	2.2uF	20%	50V
C234	1-124-465-00	ELECT	0.47uF	20%	50V
C237	1-124-910-11	ELECT	47uF	20%	50V
C238	1-124-910-11	ELECT	47uF	20%	50V
C239	1-136-169-00	FILM	0.22uF	5%	50V
C259	1-126-059-11	ELECT	10uF	20%	50V
C260	1-162-207-31	CERAMIC	22PF	5%	50V
C401	1-126-059-11	ELECT	10uF	20%	50V
C402	1-126-059-11	ELECT	10uF	20%	50V
C403	1-126-059-11	ELECT	10uF	20%	50V
C404	1-124-471-00	ELECT	1000uF	20%	6.3V
C405	1-124-471-00	ELECT	1000uF	20%	6.3V
C406	1-124-471-00	ELECT	1000uF	20%	6.3V
C407	1-161-494-00	CERAMIC	0.022uF		25V
C408	1-126-049-11	ELECT	22uF	20%	25V
C701	1-161-494-00	CERAMIC	0.022uF		25V
C702	1-161-494-00	CERAMIC	0.022uF		25V
C703	1-161-494-00	CERAMIC	0.022uF		25V
C704	1-124-638-11	ELECT	22uF	20%	10V
C705	1-126-154-11	ELECT	47uF	20%	6.3V
C706	1-161-494-00	CERAMIC	0.022uF		25V
C707	1-126-154-11	ELECT	47uF	20%	6.3V
C708	1-161-494-00	CERAMIC	0.022uF		25V
C709	1-164-159-11	CERAMIC	0.1uF		50V
C710	1-161-379-00	CERAMIC	0.01uF	20%	25V
C711	1-162-294-31	CERAMIC	0.001uF	10%	50V
C713	1-126-096-11	ELECT	10uF	20%	35V
C714	1-161-494-00	CERAMIC	0.022uF		25V
C715	1-161-494-00	CERAMIC	0.022uF		25V
C716	1-126-177-11	ELECT	100uF	20%	10V
C717	1-164-159-11	CERAMIC	0.1uF		50V
C720	1-125-486-11	DOUBLE LAYERS	0.22F		5.5V
C722	1-164-159-11	CERAMIC	0.1uF		50V
		< VIBRATOR >			
CF701	1-577-359-21	VIBRATOR, CERAMIC (4.19MHz)			
		< CONNECTOR >			
* CN504	1-564-508-11	PLUG, CONNECTOR 5P			
* CN602	1-568-830-11	SOCKET, CONNECTOR 11P			
* CN603	1-568-830-11	SOCKET, CONNECTOR 11P			
* CN701	1-568-834-11	SOCKET, CONNECTOR 15P			
		< CONNECTOR >			
* CNJ302	1-565-970-11	SOCKET, CONNECTOR(PC BOARD) 5P			
* CNJ701	1-565-980-11	HOUSING, CONNECTOR(PC BOARD) 9P			
		< CONNECTOR >			
* CNP201	1-691-632-11	CONNECTOR, BOARD TO BOARD 15P			
* CNP202	1-691-632-11	CONNECTOR, BOARD TO BOARD 15P			
* CNP301	1-569-502-11	PIN, CONNECTOR 7P			
		< DIODE >			
D101	8-719-987-63	DIODE 1N4148M			
D401	8-719-200-77	DIODE 10E2N			
D701	8-719-301-39	LED SEL2210S (BASS SYNTHE)			
D702	8-719-313-69	LED SEL3210S-CD (EQ REC)			
D703	8-719-313-69	LED SEL3210S-CD (CD DIRECT)			
D704	8-719-313-69	LED SEL3210S-CD (3)			
D705	8-719-313-69	LED SEL3210S-CD (2)			
D706	8-719-313-69	LED SEL3210S-CD (1)			
D707	8-719-200-77	DIODE 10E2N			
D708	8-719-200-77	DIODE 10E2N			
D709	8-719-987-63	DIODE 1N4148M			
D711	8-719-987-63	DIODE 1N4148M			
D713	8-719-987-63	DIODE 1N4148M			
D715	8-719-987-63	DIODE 1N4148M			
D716	8-719-987-63	DIODE 1N4148M			
D717	8-719-200-82	DIODE 11ES2			
D718	8-719-987-63	DIODE 1N4148M			
D720	8-719-987-63	DIODE 1N4148M			
D721	8-719-987-63	DIODE 1N4148M			
D722	8-719-987-63	DIODE 1N4148M			
D723	8-719-987-63	DIODE 1N4148M			
D724	8-719-987-63	DIODE 1N4148M			
		< IC >			
IC101	8-759-636-73	IC M5218AL-22			
IC102	8-759-805-13	IC LC7821			
IC103	8-759-634-50	IC M5218AL			

AUDIO FUNCTION | HP JACK | PANEL | VIDEO FUNCTION | VIDEO 3

Ref. No.	Part No.	Description	Remark
IC104	8-759-801-01	IC LC4966	
IC105	8-759-801-01	IC LC4966	
IC106	8-759-801-01	IC LC4966	
IC107	8-759-043-16	IC M51134P	
IC108	8-759-636-74	IC M5218AP-22	
IC109	8-759-634-50	IC M5218AL	
IC110	8-759-636-74	IC M5218AP-22	
IC401	8-759-991-77	IC BA7625	
IC701	8-759-154-91	IC uPD75106CW-195	
IC702	8-759-962-08	IC BA6208	
IC703	8-759-962-08	IC BA6208	
IC704	8-759-000-47	IC MC14051BCP	
IC705	8-759-000-47	IC MC14051BCP	
IC706	8-759-991-02	IC NE555P	
		< JACK >	
J101	1-565-258-11	JACK, PIN 4P (PHONO IN, CD IN)	
J102	1-565-258-11	JACK, PIN 4P (VIDEO 1)	
J103	1-565-258-11	JACK, PIN 4P (VIDEO 2)	
J105	1-580-174-41	JACK, PIN (3P FRONT) (VIDEO 3 INPUT)	
J401	1-565-319-11	JACK, PIN 2P (VIDEO 1)	
J402	1-565-351-61	JACK, PIN 3P (VIDEO 2, MONITOR)	
J501	1-507-854-00	JACK, PHONE (HEADPHONES)	
		< COIL >	
L401	1-410-521-11	INDUCTOR 100uH	
		< TRANSISTOR >	
Q102	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q103	8-729-900-36	TRANSISTOR DTC124ES	
Q104	8-729-900-63	TRANSISTOR DTA124ES	
Q105	8-729-900-63	TRANSISTOR DTA124ES	
Q106	8-729-900-63	TRANSISTOR DTA124ES	
Q107	8-729-900-36	TRANSISTOR DTC124ES	
Q108	8-729-900-63	TRANSISTOR DTA124ES	
Q109	8-729-900-63	TRANSISTOR DTA124ES	
Q110	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q111	8-729-224-62	TRANSISTOR 2SK246-GR	
Q112	8-729-224-62	TRANSISTOR 2SK246-GR	
Q202	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q401	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q402	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q403	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q404	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q701	8-729-900-36	TRANSISTOR DTC124ES	
Q703	8-729-900-36	TRANSISTOR DTC124ES	
Q704	8-729-900-63	TRANSISTOR DTA124ES	
Q705	8-729-900-63	TRANSISTOR DTA124ES	

Ref. No.	Part No.	Description	Remark
Q706	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q707	8-729-900-36	TRANSISTOR DTC124ES	
		< RESISTOR >	
R101	1-249-417-11	CARBON 1K 5% 1/4W	(G, IT)
R102	1-249-441-11	CARBON 100K 5% 1/4W	
R103	1-249-417-11	CARBON 1K 5% 1/4W	
R104	1-249-441-11	CARBON 100K 5% 1/4W	
R105	1-249-416-11	CARBON 820 5% 1/4W	
R106	1-247-897-11	CARBON 560K 5% 1/4W	
R107	1-249-437-11	CARBON 47K 5% 1/4W	
R108	1-249-441-11	CARBON 100K 5% 1/4W	
R109	1-249-417-11	CARBON 1K 5% 1/4W	
R110	1-249-409-11	CARBON 220 5% 1/4W	
R111	1-249-421-11	CARBON 2.2K 5% 1/4W	
R112	1-249-428-11	CARBON 8.2K 5% 1/4W	
R113	1-249-417-11	CARBON 1K 5% 1/4W	
R114	1-247-903-00	CARBON 1M 5% 1/4W	
R115	1-249-417-11	CARBON 1K 5% 1/4W	
R116	1-247-903-00	CARBON 1M 5% 1/4W	
R117	1-249-417-11	CARBON 1K 5% 1/4W	
R118	1-247-903-00	CARBON 1M 5% 1/4W	
R119	1-249-413-11	CARBON 470 5% 1/4W	
R120	1-247-903-00	CARBON 1M 5% 1/4W	
R121	1-249-413-11	CARBON 470 5% 1/4W	
R122	1-247-903-00	CARBON 1M 5% 1/4W	
R132	1-249-442-11	CARBON 120K 5% 1/4W	
R133	1-249-438-11	CARBON 56K 5% 1/4W	
R134	1-247-903-00	CARBON 1M 5% 1/4W	
R135	1-249-438-11	CARBON 56K 5% 1/4W	
R136	1-249-428-11	CARBON 8.2K 5% 1/4W	
R137	1-249-435-11	CARBON 33K 5% 1/4W	
R138	1-249-435-11	CARBON 33K 5% 1/4W	
R142	1-249-425-11	CARBON 4.7K 5% 1/4W	
R143	1-249-433-11	CARBON 22K 5% 1/4W	
R147	1-249-429-11	CARBON 10K 5% 1/4W	
R148	1-249-433-11	CARBON 22K 5% 1/4W	
R149	1-249-441-11	CARBON 100K 5% 1/4W	
R150	1-249-417-11	CARBON 1K 5% 1/4W	
R151	1-249-417-11	CARBON 1K 5% 1/4W	
R152	1-249-417-11	CARBON 1K 5% 1/4W	
R153	1-249-433-11	CARBON 22K 5% 1/4W	
R154	1-249-433-11	CARBON 22K 5% 1/4W	
R155	1-249-417-11	CARBON 1K 5% 1/4W	
R156	1-249-433-11	CARBON 22K 5% 1/4W	
R157	1-249-417-11	CARBON 1K 5% 1/4W	
R158	1-249-433-11	CARBON 22K 5% 1/4W	
R160	1-249-425-11	CARBON 4.7K 5% 1/4W	
R161	1-249-441-11	CARBON 100K 5% 1/4W	

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Ref. No.	Part No.	Description			Remark	
R162	1-249-417-11	CARBON	1K	5%	1/4W	
R170	1-249-429-11	CARBON	10K	5%	1/4W	
R171	1-249-438-11	CARBON	56K	5%	1/4W	
R172	1-249-429-11	CARBON	10K	5%	1/4W	
R173	1-247-848-11	CARBON	5.1K	5%	1/4W	
R174	1-249-429-11	CARBON	10K	5%	1/4W	
R175	1-249-429-11	CARBON	10K	5%	1/4W	
R176	1-249-438-11	CARBON	56K	5%	1/4W	
R178	1-249-441-11	CARBON	100K	5%	1/4W	
R179	1-247-898-11	CARBON	620K	5%	1/4W	
R180	1-247-887-00	CARBON	220K	5%	1/4W	
R181	1-247-887-00	CARBON	220K	5%	1/4W	
R182	1-247-887-00	CARBON	220K	5%	1/4W	
R183	1-249-435-11	CARBON	33K	5%	1/4W	
R184	1-249-417-11	CARBON	1K	5%	1/4W	
R185	1-247-887-00	CARBON	220K	5%	1/4W	
R186	1-249-428-11	CARBON	8.2K	5%	1/4W	
R187	1-249-425-11	CARBON	4.7K	5%	1/4W	
R188	1-249-428-11	CARBON	8.2K	5%	1/4W	
R189	1-249-425-11	CARBON	4.7K	5%	1/4W	
R190	1-247-895-00	CARBON	470K	5%	1/4W	
R191	1-249-441-11	CARBON	100K	5%	1/4W	
R201	1-249-417-11	CARBON	1K	5%	1/4W	(G, IT)
R202	1-249-441-11	CARBON	100K	5%	1/4W	
R203	1-249-417-11	CARBON	1K	5%	1/4W	
R204	1-249-441-11	CARBON	100K	5%	1/4W	
R205	1-249-416-11	CARBON	820	5%	1/4W	
R206	1-247-897-11	CARBON	560K	5%	1/4W	
R207	1-249-437-11	CARBON	47K	5%	1/4W	
R208	1-249-441-11	CARBON	100K	5%	1/4W	
R209	1-249-417-11	CARBON	1K	5%	1/4W	
R210	1-249-409-11	CARBON	220	5%	1/4W	
R211	1-249-421-11	CARBON	2.2K	5%	1/4W	
R212	1-249-428-11	CARBON	8.2K	5%	1/4W	
R213	1-249-417-11	CARBON	1K	5%	1/4W	
R214	1-247-903-00	CARBON	1M	5%	1/4W	
R215	1-249-417-11	CARBON	1K	5%	1/4W	
R216	1-247-903-00	CARBON	1M	5%	1/4W	
R217	1-249-417-11	CARBON	1K	5%	1/4W	
R218	1-247-903-00	CARBON	1M	5%	1/4W	
R219	1-249-413-11	CARBON	470	5%	1/4W	
R220	1-247-903-00	CARBON	1M	5%	1/4W	
R221	1-249-413-11	CARBON	470	5%	1/4W	
R222	1-247-903-00	CARBON	1M	5%	1/4W	
R232	1-249-442-11	CARBON	120K	5%	1/4W	
R233	1-249-438-11	CARBON	56K	5%	1/4W	
R234	1-247-903-00	CARBON	1M	5%	1/4W	
R235	1-249-438-11	CARBON	56K	5%	1/4W	
R236	1-249-428-11	CARBON	8.2K	5%	1/4W	

Ref. No.	Part No.	Description			Remark
R237	1-249-435-11	CARBON	33K	5%	1/4W
R238	1-249-435-11	CARBON	33K	5%	1/4W
R242	1-249-425-11	CARBON	4.7K	5%	1/4W
R247	1-249-429-11	CARBON	10K	5%	1/4W
R270	1-249-429-11	CARBON	10K	5%	1/4W
R286	1-249-428-11	CARBON	8.2K	5%	1/4W
R287	1-249-425-11	CARBON	4.7K	5%	1/4W
R288	1-249-428-11	CARBON	8.2K	5%	1/4W
R289	1-249-425-11	CARBON	4.7K	5%	1/4W
R290	1-247-895-00	CARBON	470K	5%	1/4W
R401	1-247-804-11	CARBON	75	5%	1/4W
R402	1-247-804-11	CARBON	75	5%	1/4W
R403	1-247-804-11	CARBON	75	5%	1/4W
R404	1-249-403-11	CARBON	68	5%	1/4W
R405	1-249-429-11	CARBON	10K	5%	1/4W
R406	1-249-403-11	CARBON	68	5%	1/4W
R407	1-249-429-11	CARBON	10K	5%	1/4W
R408	1-249-403-11	CARBON	68	5%	1/4W
R409	1-249-429-11	CARBON	10K	5%	1/4W
R410	1-249-408-11	CARBON	180	5%	1/4W
R411	1-249-408-11	CARBON	180	5%	1/4W
R412	1-249-408-11	CARBON	180	5%	1/4W
R413	1-249-408-11	CARBON	180	5%	1/4W
R414	1-249-408-11	CARBON	180	5%	1/4W
R415	1-249-408-11	CARBON	180	5%	1/4W
R416	1-249-429-11	CARBON	10K	5%	1/4W
R417	1-249-417-11	CARBON	1K	5%	1/4W
R418	1-249-433-11	CARBON	22K	5%	1/4W
R419	1-249-417-11	CARBON	1K	5%	1/4W
R420	1-249-433-11	CARBON	22K	5%	1/4W
R517	1-247-750-11	CARBON	680	5%	1/2W
R567	1-247-750-11	CARBON	680	5%	1/2W
R701	1-249-433-11	CARBON	22K	5%	1/4W
R703	1-249-429-11	CARBON	10K	5%	1/4W
R704	1-249-429-11	CARBON	10K	5%	1/4W
R705	1-249-429-11	CARBON	10K	5%	1/4W
R706	1-249-429-11	CARBON	10K	5%	1/4W
R707	1-249-429-11	CARBON	10K	5%	1/4W
R708	1-249-433-11	CARBON	22K	5%	1/4W
R709	1-249-433-11	CARBON	22K	5%	1/4W
R710	1-249-433-11	CARBON	22K	5%	1/4W
R711	1-249-433-11	CARBON	22K	5%	1/4W
R712	1-249-433-11	CARBON	22K	5%	1/4W
R713	1-249-433-11	CARBON	22K	5%	1/4W
R714	1-249-433-11	CARBON	22K	5%	1/4W
R715	1-249-433-11	CARBON	22K	5%	1/4W
R716	1-249-433-11	CARBON	22K	5%	1/4W
R717	1-249-429-11	CARBON	10K	5%	1/4W
R719	1-249-409-11	CARBON	220	5%	1/4W

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Ref. No.	Part No.	Description				Remark
R720	1-249-418-11	CARBON	1.2K	5%	1/4W	
R721	1-249-418-11	CARBON	1.2K	5%	1/4W	
R722	1-249-421-11	CARBON	2.2K	5%	1/4W	
R723	1-249-421-11	CARBON	2.2K	5%	1/4W	
R724	1-249-421-11	CARBON	2.2K	5%	1/4W	
R725	1-249-421-11	CARBON	2.2K	5%	1/4W	
R726	1-249-409-11	CARBON	220	5%	1/4W	
R727	1-249-409-11	CARBON	220	5%	1/4W	
R728	1-249-409-11	CARBON	220	5%	1/4W	
R729	1-249-415-11	CARBON	680	5%	1/4W	
R730	1-249-421-11	CARBON	2.2K	5%	1/4W	
R732	1-249-421-11	CARBON	2.2K	5%	1/4W	
R734	1-249-429-11	CARBON	10K	5%	1/4W	
R735	1-249-429-11	CARBON	10K	5%	1/4W	
R736	1-249-429-11	CARBON	10K	5%	1/4W	
R737	1-249-429-11	CARBON	10K	5%	1/4W	
R738	1-249-429-11	CARBON	10K	5%	1/4W	
R739	1-249-429-11	CARBON	10K	5%	1/4W	
R740	1-249-429-11	CARBON	10K	5%	1/4W	
R741	1-249-429-11	CARBON	10K	5%	1/4W	
R742	1-249-415-11	CARBON	680	5%	1/4W	
R743	1-249-438-11	CARBON	56K	5%	1/4W	
R744	1-247-885-00	CARBON	180K	5%	1/4W	
R745	1-249-429-11	CARBON	10K	5%	1/4W	
R746	1-249-417-11	CARBON	1K	5%	1/4W	
R747	1-249-417-11	CARBON	1K	5%	1/4W	
R748	1-249-433-11	CARBON	22K	5%	1/4W	
R749	1-249-424-11	CARBON	3.9K	5%	1/4W	
R750	1-249-417-11	CARBON	1K	5%	1/4W	
R751	1-249-425-11	CARBON	4.7K	5%	1/4W	
R752	1-249-429-11	CARBON	10K	5%	1/4W	
R753	1-249-417-11	CARBON	1K	5%	1/4W	
R758	1-249-417-11	CARBON	1K	5%	1/4W	
R759	1-249-417-11	CARBON	1K	5%	1/4W	
R760	1-249-417-11	CARBON	1K	5%	1/4W	
R761	1-249-417-11	CARBON	1K	5%	1/4W	
R762	1-249-417-11	CARBON	1K	5%	1/4W	
R763	1-249-429-11	CARBON	10K	5%	1/4W	
R764	1-249-433-11	CARBON	22K	5%	1/4W	
R765	1-249-433-11	CARBON	22K	5%	1/4W	
R766	1-249-433-11	CARBON	22K	5%	1/4W	
R767	1-249-417-11	CARBON	1K	5%	1/4W	
R768	1-249-417-11	CARBON	1K	5%	1/4W	
R769	1-249-417-11	CARBON	1K	5%	1/4W	
R770	1-249-429-11	CARBON	10K	5%	1/4W	
R771	1-249-417-11	CARBON	1K	5%	1/4W	
R772	1-249-417-11	CARBON	1K	5%	1/4W	
R773	1-249-417-11	CARBON	1K	5%	1/4W	
R774	1-249-417-11	CARBON	1K	5%	1/4W	

Ref. No.	Part No.	Description				Remark
		< VARIABLE RESISTOR >				
RV101	1-238-978-11	RES, VAR, CARBON 100KX2 (TREBLE)				
RV102	1-238-978-11	RES, VAR, CARBON 100KX2 (BASS)				
RV103	1-241-879-11	RES, VAR, CARBON 20K (BASS SYNTHESIZER LEVEL)				
RV104	1-238-459-11	RES, VAR, CARBON 100K (BALANCE)				
		< SWITCH >				
S701	1-572-733-11	SWITCH, ROTARY (WITH MOTOR) (FUNCTION VIDEO)				
S702	1-572-732-11	SWITCH, ROTARY (WITH MOTOR) (FUNCTION AUDIO)				
S703	1-554-303-21	SWITCH, TACTILE (PROGRAM FUNCTION SET)				
S704	1-554-303-21	SWITCH, TACTILE (PROGRAM FUNCTION 3)				
S705	1-554-303-21	SWITCH, TACTILE (PROGRAM FUNCTION 2)				
S706	1-554-303-21	SWITCH, TACTILE (PROGRAM FUNCTION 1)				
S707	1-554-303-21	SWITCH, TACTILE (BASS SYNTHE)				
S708	1-554-303-21	SWITCH, TACTILE (EQ REC)				
S709	1-554-303-21	SWITCH, TACTILE (CD DIRECT)				
**						
*	A-4347-731-A	MAIN BOARD, COMPLETE (AEP)				
*	A-4347-742-A	MAIN BOARD, COMPLETE (UK)				
*	A-4347-743-A	MAIN BOARD, COMPLETE (G, IT)				
*	A-4347-747-A	MAIN BOARD, COMPLETE (A70)				
		***************************				
*	1-643-979-11	MICROPHONE AMPLIFIER BOARD				
		**************************				
*	1-643-978-11	TEMPERATURE SENSOR BOARD				
		************************				
*	1-643-976-11	VOLUME BOARD				
		************				
*	1-533-213-31	HOLDER, FUSE				
*	4-942-204-01	PLATE, GROUND				
	7-682-548-04	SCREW +BVTT 3X8 (S)				
		< CAPACITOR >				
⚠C1	1-161-744-00	CERAMIC	0.01uF		400V	
C301	1-124-257-00	ELECT	2.2uF	20%	50V	
C302	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C303	1-162-219-31	CERAMIC	68PF	5%	50V	
C304	1-162-284-31	CERAMIC	150PF	10%	50V	
C305	1-124-463-00	ELECT	0.1uF	20%	50V	
C306	1-124-257-00	ELECT	2.2uF	20%	50V	
C307	1-162-219-31	CERAMIC	68PF	5%	50V	
C308	1-161-885-11	CERAMIC	0.0033uF	20%	50V	
C309	1-130-474-00	MYLAR	0.018uF	5%	50V	
C310	1-124-234-00	ELECT	22uF	20%	16V	
C311	1-124-234-00	ELECT	22uF	20%	16V	
C312	1-164-159-11	CERAMIC	0.1uF		50V	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

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Ref. No.	Part No.	Description			Remark	
C409	1-164-159-11	CERAMIC (AEP, UK, A70)	0.1uF		50V	
C412	1-164-159-11	CERAMIC	0.1uF		50V	
C413	1-164-159-11	CERAMIC	0.1uF		50V	
C414	1-164-159-11	CERAMIC	0.1uF		50V	
C415	1-162-288-31	CERAMIC	330PF	10%	50V	(G, IT)
C416	1-162-288-31	CERAMIC	330PF	10%	50V	(G, IT)
C417	1-161-377-00	CERAMIC	0.0047uF	20%	50V	(G, IT)
C501	1-126-059-11	ELECT	10uF	20%	50V	
C502	1-162-282-31	CERAMIC	100PF	10%	50V	
C503	1-162-286-31	CERAMIC	220PF	10%	50V	
C504	1-126-101-11	ELECT	100uF	20%	16V	
C505	1-124-572-11	ELECT	100uF	20%	63V	
C506	1-124-910-11	ELECT	47uF	20%	50V	
C507	1-124-916-11	ELECT	22uF	20%	63V	(D707)
C507	1-126-059-11	ELECT	10uF	20%	63V	(A70)
C508	1-130-493-00	MYLAR	0.068uF	5%	50V	
C509	1-130-493-00	MYLAR	0.068uF	5%	50V	
C510	1-126-300-11	ELECT	0.47uF	20%	50V	
C520	1-136-163-00	FILM	0.068uF	5%	50V	(G, IT)
C521	1-136-163-00	FILM	0.068uF	5%	50V	(G, IT)
C551	1-126-059-11	ELECT	10uF	20%	50V	
C552	1-162-282-31	CERAMIC	100PF	10%	50V	
C553	1-162-286-31	CERAMIC	220PF	10%	50V	
C554	1-126-101-11	ELECT	100uF	20%	16V	
C555	1-124-572-11	ELECT	100uF	20%	63V	
C556	1-124-910-11	ELECT	47uF	20%	50V	
C557	1-161-047-00	CERAMIC	0.0047uF		25V	
C558	1-130-493-00	MYLAR	0.068uF	5%	50V	
C559	1-130-493-00	MYLAR	0.068uF	5%	50V	
C570	1-136-163-00	FILM	0.068uF	5%	50V	(G, IT)
C571	1-136-163-00	FILM	0.068uF	5%	50V	(G, IT)
C601	1-126-101-11	ELECT	100uF	20%	16V	
C602	1-126-101-11	ELECT	100uF	20%	16V	
C603	1-126-163-11	ELECT	4.7uF	20%	50V	
C604	1-124-994-11	ELECT	100uF	20%	10V	
C712	1-161-494-00	CERAMIC	0.022uF		25V	
C718	1-126-022-11	ELECT	47uF	20%	16V	
C719	1-161-494-00	CERAMIC	0.022uF		25V	
C721	1-164-159-11	CERAMIC	0.1uF		50V	
C801	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C802	1-126-059-11	ELECT	10uF	20%	50V	
C803	1-126-059-11	ELECT	10uF	20%	50V	
C804	1-126-059-11	ELECT	10uF	20%	50V	
C805	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C807	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C808	1-161-379-00	CERAMIC	0.01uF	20%	25V	
⚠C901	1-126-258-11	ELECT	4700uF	20%	56V	
⚠C902	1-126-258-11	ELECT	4700uF	20%	56V	
C903	1-161-377-00	CERAMIC	0.0047uF	20%	50V	(G, IT)
C904	1-161-377-00	CERAMIC	0.0047uF	20%	50V	(G, IT)
C905	1-124-920-11	ELECT	330uF	20%	63V	
C906	1-126-233-11	ELECT	22uF	20%	50V	
C907	1-124-122-11	ELECT	100uF	20%	50V	
C908	1-124-994-11	ELECT	100uF	20%	10V	
C909	1-126-027-11	ELECT	1000uF	20%	25V	
C910	1-126-027-11	ELECT	1000uF	20%	25V	
C911	1-124-910-11	ELECT	47uF	20%	50V	
C912	1-124-910-11	ELECT	47uF	20%	50V	
C913	1-126-023-11	ELECT	100uF	20%	16V	
C914	1-126-023-11	ELECT	100uF	20%	16V	
C915	1-124-910-11	ELECT	47uF	20%	50V	
C916	1-124-463-00	ELECT	0.1uF	20%	50V	
C917	1-130-491-00	MYLAR	0.047uF	5%	50V	
C918	1-126-177-11	ELECT	100uF	20%	10V	
C919	1-124-910-11	ELECT	47uF	20%	50V	(UK)
C920	1-126-023-11	ELECT	100uF	20%	16V	(UK)
C922	1-164-159-11	CERAMIC	0.1uF		50V	(G, IT)
C925	1-161-377-00	CERAMIC	0.0047uF	20%	50V	(G, IT)
C926	1-161-377-00	CERAMIC	0.0047uF	20%	50V	(G, IT)
⚠C927	1-106-375-12	MYLAR	0.022uF	5%	200V	
⚠C928	1-106-375-12	MYLAR	0.022uF	5%	200V	
		< CONNECTOR >				
* CN101	1-566-858-41	SOCKET, CONNECTOR 11P (SYSTEM CONTROL 1)				
* CN102	1-566-858-31	SOCKET, CONNECTOR 11P (SYSTEM CONTROL 3)				
* CN301	1-564-507-11	PLUG, CONNECTOR 4P				
* CN302	1-564-507-11	PLUG, CONNECTOR 4P				
* CN501	1-564-506-11	PLUG, CONNECTOR 3P				
* CN502	1-564-506-11	PLUG, CONNECTOR 3P				
* CN503	1-564-508-11	PLUG, CONNECTOR 5P				
* CN702	1-568-834-11	SOCKET, CONNECTOR 15P				
* CN801	1-564-505-11	PLUG, CONNECTOR 2P				
* CN802	1-564-506-11	PLUG, CONNECTOR 3P				
* CN803	1-564-506-11	PLUG, CONNECTOR 3P				
* CN901	1-566-859-11	SOCKET, CONNECTOR 15P (SYSTEM CONTROL 2)				
* CN902	1-566-210-11	PIN, CONNECTOR 3P (ONLY FOR PS-D707P) (UK)				
		< CONNECTOR >				
* CNJ201	1-691-616-11	CONNECTOR, BOARD TO BOARD 15P				
* CNJ202	1-691-616-11	CONNECTOR, BOARD TO BOARD 15P				
* CNJ301	1-569-493-11	SOCKET, CONNECTOR 7P				
		< CONNECTOR >				
* CNP1	1-564-321-00	PIN, CONNECTOR 2P				
* CNP302	1-565-967-11	PIN, CONNECTOR (PC BOARD) 5P				
* CNP701	1-568-454-11	PIN, CONNECTOR (PC BOARD) 9P				

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

MAIN MICROPHONE AMPLIFIER TEMPERATURE SENSOR VOLUME

Ref. No.	Part No.	Description	Remark
		< COMPOSITION CIRCUIT BLOCK >	
⚠CP902	1-102-394-11	CERAMIC 0.01uFX2	250V
		< DIODE >	
D501	8-719-815-85	DIODE 1S1585	
D502	8-719-987-63	DIODE 1N4148M	
D551	8-719-815-85	DIODE 1S1585	
D602	8-719-815-85	DIODE 1S1585	
D603	8-719-815-85	DIODE 1S1585	
D604	8-719-815-85	DIODE 1S1585	
D605	8-719-815-85	DIODE 1S1585	
D606	8-719-987-63	DIODE 1N4148M	
D710	8-719-815-85	DIODE 1S1585	
D712	8-719-000-84	DIODE UZL-7M1	
D714	8-719-987-63	DIODE 1N4148M	
D719	8-719-987-63	DIODE 1N4148M	
D725	8-719-987-63	DIODE 1N4148M	
D801	8-719-987-63	DIODE 1N4148M	
D802	8-719-010-54	DIODE UZ-7.5BSB	
D804	8-719-010-26	DIODE UZ-3.9BSB	
⚠D901	8-719-302-38	DIODE RBV-602-01	
D902	8-719-200-77	DIODE 10E2N	
D903	8-719-002-67	DIODE UZL-33H	
D904	8-719-014-88	DIODE UZP-6.8BC	
D905	8-719-200-77	DIODE 10E2N	
D906	8-719-200-77	DIODE 10E2N	
D907	8-719-200-77	DIODE 10E2N	
D908	8-719-200-77	DIODE 10E2N	
D909	8-719-200-77	DIODE 10E2N	
D910	8-719-200-77	DIODE 10E2N	
D911	8-719-200-77	DIODE 10E2N (UK)	
		< IC >	
IC301	8-759-636-73	IC M5218AL-22	
IC501	8-749-900-78	IC STK-4192MK2 (D707)	
IC501	8-749-921-04	IC STK-4211MK2 (A70)	
IC601	8-759-111-68	IC uPC1237HA	
IC707	8-759-820-62	IC LB1639	
IC801	8-759-984-03	IC LM339N	
IC802	8-759-512-73	IC LM35DZ-SL	
IC901	8-759-604-32	IC M5F7810	
IC902	8-759-604-50	IC M5F7910	
IC903	8-759-820-13	IC L78MR06	
IC904	8-759-231-58	IC TA7812S (UK)	
		< JACK >	
J301	1-507-854-00	JACK, PHONE (MIC)	
J502	1-565-352-11	JACK, PIN 2P (SURROUND SPEAKER)	
		< COIL >	
L501	1-420-872-00	COIL, AIR CORE 1.9mH	
L551	1-420-872-00	COIL, AIR CORE 1.9mH	
		< TRANSISTOR >	
Q501	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q551	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q601	8-729-900-63	TRANSISTOR DTA124ES	
Q702	8-729-900-63	TRANSISTOR DTA124ES	
Q801	8-729-140-93	TRANSISTOR 2SB733-34	
Q802	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q901	8-729-141-83	TRANSISTOR 2SB1094-LK	
		< RESISTOR >	
R123	1-249-413-11	CARBON 470 5% 1/4W	
R124	1-247-903-00	CARBON 1M 5% 1/4W	
R125	1-249-417-11	CARBON 1K 5% 1/4W	
R126	1-247-903-00	CARBON 1M 5% 1/4W	
R127	1-249-417-11	CARBON 1K 5% 1/4W	
R128	1-247-903-00	CARBON 1M 5% 1/4W	
R129	1-249-417-11	CARBON 1K 5% 1/4W	
R130	1-247-903-00	CARBON 1M 5% 1/4W	
R131	1-247-903-00	CARBON 1M 5% 1/4W	
R223	1-249-413-11	CARBON 470 5% 1/4W	
R224	1-247-903-00	CARBON 1M 5% 1/4W	
R225	1-249-417-11	CARBON 1K 5% 1/4W	
R226	1-247-903-00	CARBON 1M 5% 1/4W	
R227	1-249-417-11	CARBON 1K 5% 1/4W	
R228	1-247-903-00	CARBON 1M 5% 1/4W	
R229	1-249-417-11	CARBON 1K 5% 1/4W	
R230	1-247-903-00	CARBON 1M 5% 1/4W	
R231	1-247-903-00	CARBON 1M 5% 1/4W	
R301	1-249-441-11	CARBON 100K 5% 1/4W	
R302	1-249-417-11	CARBON 1K 5% 1/4W	
R303	1-249-429-11	CARBON 10K 5% 1/4W	
R304	1-249-412-11	CARBON 390 5% 1/4W	
R305	1-249-429-11	CARBON 10K 5% 1/4W	
R306	1-249-417-11	CARBON 1K 5% 1/4W	
R307	1-249-441-11	CARBON 100K 5% 1/4W	
R308	1-249-413-11	CARBON 470 5% 1/4W	
R309	1-249-428-11	CARBON 8.2K 5% 1/4W	
R310	1-249-416-11	CARBON 820 5% 1/4W	
R501	1-249-417-11	CARBON 1K 5% 1/4W	
R502	1-249-438-11	CARBON 56K 5% 1/4W	
R503	1-249-412-11	CARBON 330 5% 1/4W	
R504	1-249-438-11	CARBON 56K 5% 1/4W	

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MAIN | MICROPHONE AMPLIFIER | TEMPERATURE SENSOR | VOLUME

Ref. No.	Part No.	Description			Remark
R505	1-247-758-11	CARBON	3.3K	5%	1/2W (D707)
R505	1-247-760-11	CARBON	4.7K	5%	1/2W (A70)
R506	1-247-758-11	CARBON	3.3K	5%	1/2W (D707)
R506	1-247-760-11	CARBON	4.7K	5%	1/2W (A70)
⚠R507	1-212-881-11	FUSIBLE	100	5%	1/4W F
R508	1-247-752-11	CARBON	1K	5%	1/2W
R509	1-247-752-11	CARBON	1K	5%	1/2W
R510	1-249-417-11	CARBON	1K	5%	1/4W
R511	1-249-431-11	CARBON	15K	5%	1/4W
⚠R512	1-217-156-00	RES, METAL PLATE	0.22		5W
R513	1-249-441-11	CARBON	100K	5%	1/4W
R514	1-249-438-11	CARBON	56K	5%	1/4W
R515	1-247-727-11	CARBON	10	5%	1/2W
R516	1-247-727-11	CARBON	10	5%	1/2W
R518	1-249-433-11	CARBON	22K	5%	1/4W
R519	1-249-428-11	CARBON	8.2K	5%	1/4W
R520	1-247-903-00	CARBON	1M	5%	1/4W
R528	1-247-727-11	CARBON	10	5%	1/2W (G, IT)
R551	1-249-417-11	CARBON	1K	5%	1/4W
R552	1-249-438-11	CARBON	56K	5%	1/4W
R553	1-249-412-11	CARBON	330	5%	1/4W
R554	1-249-438-11	CARBON	56K	5%	1/4W
R555	1-247-758-11	CARBON	3.3K	5%	1/2W (D707)
R555	1-247-760-11	CARBON	4.7K	5%	1/2W (A70)
R556	1-247-758-11	CARBON	3.3K	5%	1/2W (D707)
R556	1-247-760-11	CARBON	4.7K	5%	1/2W (A70)
⚠R557	1-212-881-11	FUSIBLE	100	5%	1/4W F
R560	1-249-417-11	CARBON	1K	5%	1/4W
R561	1-249-431-11	CARBON	15K	5%	1/4W
⚠R562	1-217-156-00	RES, METAL PLATE	0.22		5W
R563	1-249-441-11	CARBON	100K	5%	1/4W
R564	1-249-437-11	CARBON	47K	5%	1/4W
R565	1-247-727-11	CARBON	10	5%	1/2W
R566	1-247-727-11	CARBON	10	5%	1/2W
R568	1-249-433-11	CARBON	22K	5%	1/4W
R578	1-247-727-11	CARBON	10	5%	1/2W (G, IT)
R601	1-249-429-11	CARBON	10K	5%	1/4W
R602	1-249-441-11	CARBON	100K	5%	1/4W
R603	1-249-432-11	CARBON	18K	5%	1/4W (D707)
R603	1-249-433-11	CARBON	22K	5%	1/4W (A70)
R604	1-249-437-11	CARBON	47K	5%	1/4W
R605	1-249-430-11	CARBON	12K	5%	1/4W (D707)
R605	1-249-431-11	CARBON	15K	5%	1/4W (A70)
⚠R606	1-216-457-00	METAL OXIDE (D707)	1.2K	5%	2W F
⚠R606	1-215-893-11	METAL OXIDE (A70)	1.5K	5%	2W F
R702	1-249-417-11	CARBON	1K	5%	1/4W
R718	1-249-410-11	CARBON	270	5%	1/4W
R731	1-249-429-11	CARBON	10K	5%	1/4W
R733	1-249-429-11	CARBON	10K	5%	1/4W
R754	1-247-903-00	CARBON	1M	5%	1/4W
R755	1-249-417-11	CARBON	1K	5%	1/4W
R756	1-249-415-11	CARBON	680	5%	1/4W
R757	1-249-419-11	CARBON	1.5K	5%	1/4W
R801	1-247-903-00	CARBON	1M	5%	1/4W
R804	1-249-417-11	CARBON	1K	5%	1/4W
R811	1-249-417-11	CARBON	1K	5%	1/4W
R812	1-247-731-11	CARBON	22	5%	1/2W
R813	1-249-433-11	CARBON	22K	5%	1/4W
R814	1-249-400-11	CARBON	39	5%	1/4W
R815	1-249-433-11	CARBON	22K	5%	1/4W
R816	1-249-433-11	CARBON	22K	5%	1/4W
R817	1-249-433-11	CARBON	22K	5%	1/4W
R822	1-249-418-11	CARBON	1.2K	5%	1/4W
R823	1-247-856-00	CARBON	11K	5%	1/4W (D707)
R823	1-249-429-11	CARBON	10K	5%	1/4W (A70)
R824	1-247-899-11	CARBON	680K	5%	1/4W
R828	1-249-418-11	CARBON	1.2K	5%	1/4W
R829	1-249-431-11	CARBON	15K	5%	1/4W
R830	1-247-899-11	CARBON	680K	5%	1/4W
R831	1-249-418-11	CARBON	1.2K	5%	1/4W
R832	1-249-432-11	CARBON	18K	5%	1/4W
R833	1-247-899-11	CARBON	680K	5%	1/4W
R835	1-249-417-11	CARBON	1K	5%	1/4W
R842	1-249-426-11	CARBON	5.6K	5%	1/4W
R907	1-249-422-11	CARBON	2.7K	5%	1/4W
R908	1-247-761-11	CARBON	5.6K	5%	1/2W
⚠R909	1-217-469-00	FUSIBLE	1	5%	1W F
⚠R910	1-217-469-00	FUSIBLE	1	5%	1W F
R911	1-249-429-11	CARBON	10K	5%	1/4W (UK)
⚠R912	1-212-934-00	FUSIBLE	1	5%	1/2W F

< VARIABLE RESISTOR >

RV105	1-241-695-11	RES, VAR, CARBON 10K/100K/100K (VOLUME)			
RV301	1-241-317-11	RES, VAR, CARBON 50K (MIC LEVEL)			

< RELAY >

RY601	1-515-765-11	RELAY			

< SWITCH >

S1	1-554-920-51	SWITCH, PUSH (AC POWER)(1 KEY) (POWER)			

< TERMINAL >

* TM1	1-535-142-00	BASE POST 19MM (10MM PITCH) 5P			
TM501	1-537-240-11	TERMINAL BOARD (CHECKER PIN) (SPEAKER)			

****

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

VOLTAGE SELECTION

Ref. No.	Part No.	Description	Remark
*	1-643-977-11	VOLTAGE SELECTION BOARD (A70) *****************************	
		< CONNECTOR >	
* CNP2	1-573-565-11	PIN, CONNECTOR 5P (A70)	
		< SWITCH >	
⚠S2	1-572-009-11	SELECTOR, VOLTAGE (VOLTAGE SELECTOR) (A70)	

****

MISCELLANEOUS

****

Ref. No.	Part No.	Description
⚠12	1-575-656-11	CORD, POWER (E, TR)
⚠13	1-575-651-11	CORD, POWER (AEP, G, IT, EA)
⚠14	1-690-056-11	CORD, POWER (AUS)
⚠15	1-575-669-21	CORD, POWER (UK)
63	1-575-903-11	WIRE, FLAT TYPE (15 CORE)
64	1-590-218-11	WIRE, FLAT TYPE (11 CORE)
⚠CN1	1-526-751-00	OUTLET, AC (AC OUTLET) (UK)
⚠CN1	1-526-794-11	OUTLET, AC (AC OUTLET) (AEP, G, IT, EA)
⚠CN1	1-526-882-00	OUTLET, AC (AC OUTLET) (E, TR)
⚠CN1	1-540-196-11	OUTLET, AC (AC OUTLET) (AUS)
⚠F1	1-532-203-00	FUSE, TIME-LAG (T2A)
⚠F2	1-532-203-00	FUSE, TIME-LAG (T2A) (AEP, G, IT, A70)
⚠F901	1-532-203-00	FUSE, TIME-LAG (T2A)
⚠F902	1-532-203-00	FUSE, TIME-LAG (T2A)
⚠T1	1-450-913-11	TRANSFORMER, POWER (D707)
⚠T1	1-450-914-11	TRANSFORMER, POWER (A70)

****

****

HARDWARE LIST

****

Ref. No.	Part No.	Description
#1	7-621-849-00	SCREW (BV/RING)
#2	7-682-547-04	SCREW +BVTT 3X6 (S)
#3	7-685-646-79	SCREW +BVTP 3X8 TYPE2
#4	7-682-548-04	SCREW +BVTT 3X8 (S)
#5	7-685-650-79	SCREW +BVTP 3X16 TYPE2
#6	7-682-560-04	SCREW +BVTT 4X6 (S)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

9-957-094-11

Sony Corporation
Audio Group

English
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TC-D707

SERVICE MANUAL

AEP Model
UK Model
E Model
Australian Model

- This set is the cassette deck section in LBT-D707CD/D707CDM.

Model Name Using Similar Mechanism		TC-H1600/WR590
Tape Transport Mechanism Type	DECK A	TCM-190RA12C
	DECK B	TCM-190RB12C

SPECIFICATIONS

Recording system	4-track 2-channel stereo
Frequency response	DOLBY NR OFF With Type IV cassette (Sony METAL-ES) 30 Hz to 15 kHz (±3 dB) With Type II cassette (Sony UX-S) 40 Hz to 14 kHz (±3 dB) With Type I cassette (Sony HF-S) 40 Hz to 14 kHz (±3 dB)
Wow and flutter	±0.2% W.PEAK (DIN)
Weight	Approx. 3.5 kg (8 lb 1 oz)
Dimensions	Approx. 355 x 131 x 304 mm (14 x 5¼ x 12 inches) (w/h/d, including projections)

Design and specifications are subject to change without notice.

Note
This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.

"DOLBY", the double-D symbol ᗡD and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

MICROFILM

STEREO CASSETTE DECK

SONY®

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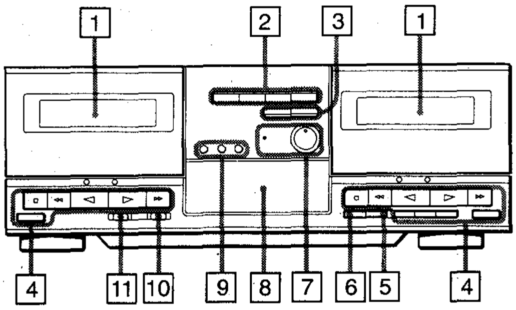
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
GENERAL

This section is extracted from instruction manual.



1. Cassette holders
2. AUTO CD SYNCHRO REC buttons and indicators
   C.(Cross) FADE (29)
   FADE (28)
   EDIT (31)
   TIME (31)
3. SYNCHRO DUBBING buttons (24)
4. Tape operation buttons
   ◀◀ Leftward fast winding/AMS*, ▶▶ Rightward fast winding/AMS*, ▶ Forward play, ◀ Reverse play, ■ Stop, ⏏ EJECT, ❚❚ PAUSE (deck B only), ○ REC MUTE Record muting (deck B only), ● REC Record (deck B only)
5. FADER button (22)
6. ARL (Automatic recording level) button and indicator (21)
7. REC (recording) LEVEL control and indicator (20)
8. Display window
9. COUNTER setting buttons (19)
   A/B, MEMORY and RESET button
10. DOLBY NR (noise reduction) selector (20)
11. DIRECTION MODE selector (17, 20, 24)

* AMS is the abbreviation of Automatic Music Sensor.

SECTION 2
DISASSEMBLY

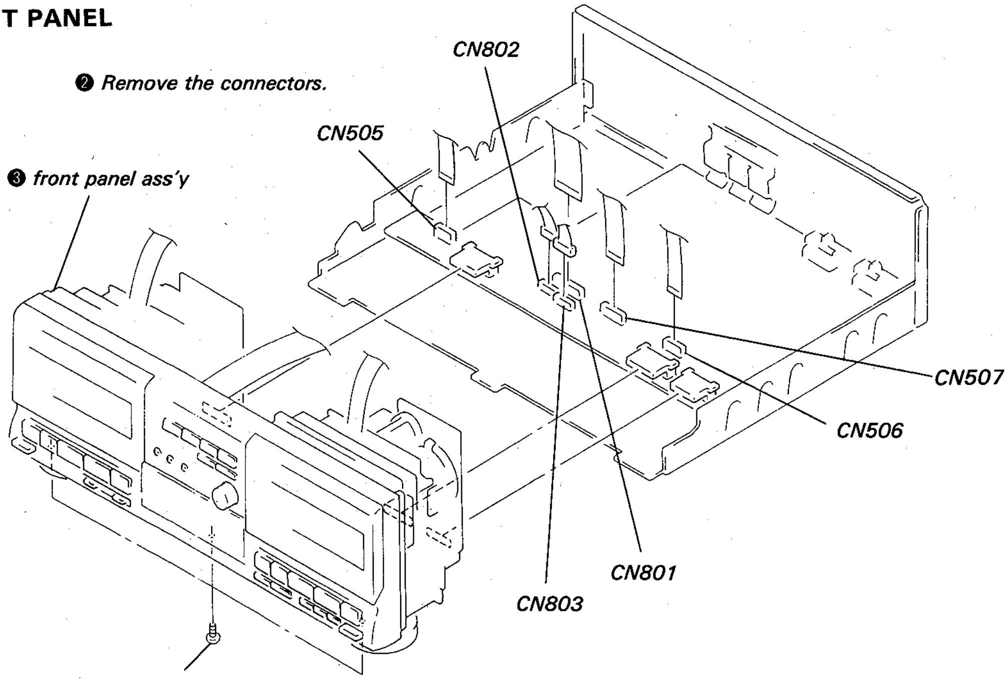
NOTE: Follow the disassembly procedure in the numerical order given.

CASE
Unscrew the four case attachment screws M3×8 and remove the case.

FRONT PANEL

❷ Remove the connectors.

❸ front panel ass'y

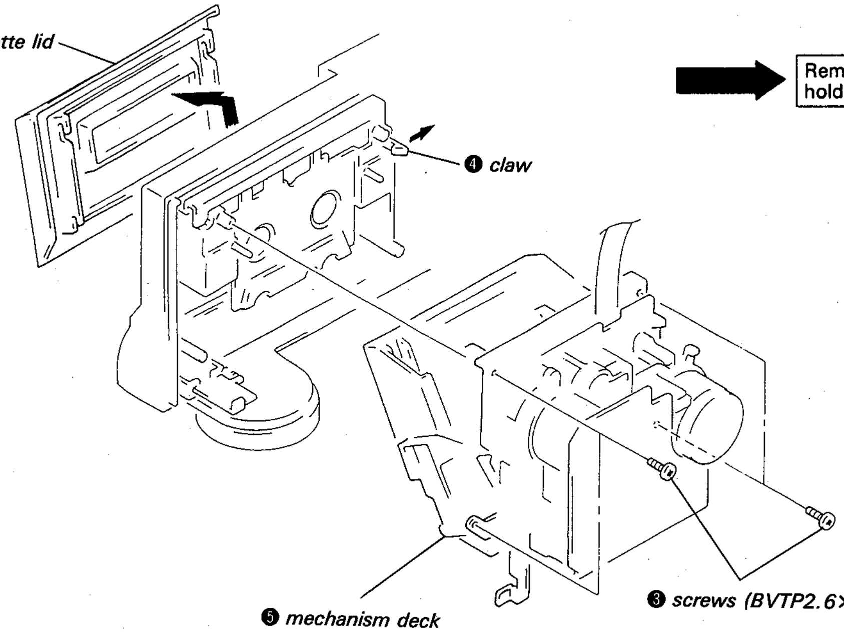


❶ screws (BVTP3×8)

MECHANISM DECK

❶ Press the EJECT button.

❷ cassette lid



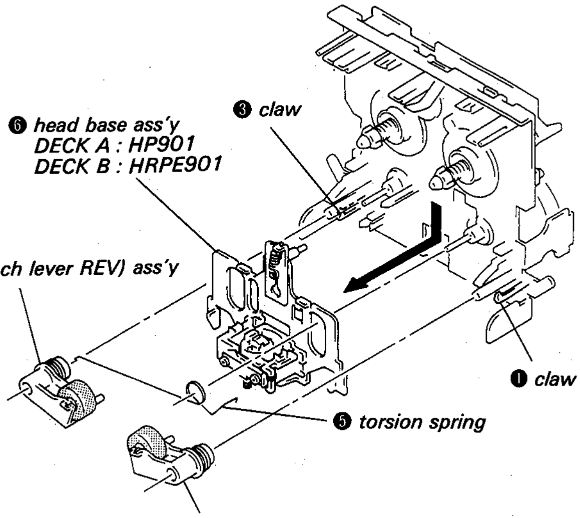
❹ claw

❸ screws (BVTP2.6×8)

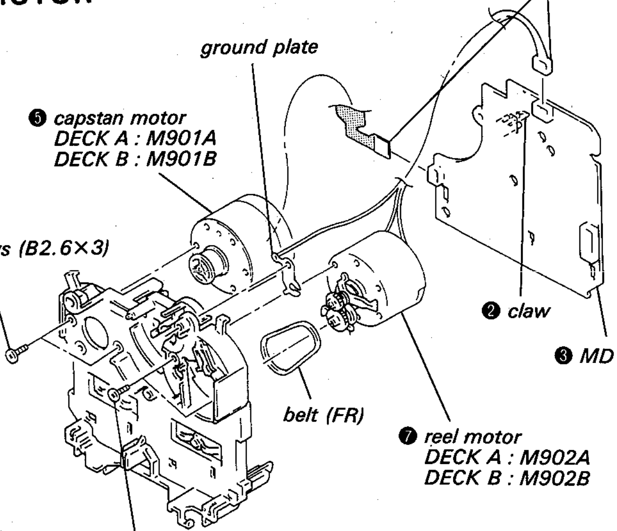
❺ mechanism deck

Remove the cassette holder assembly.

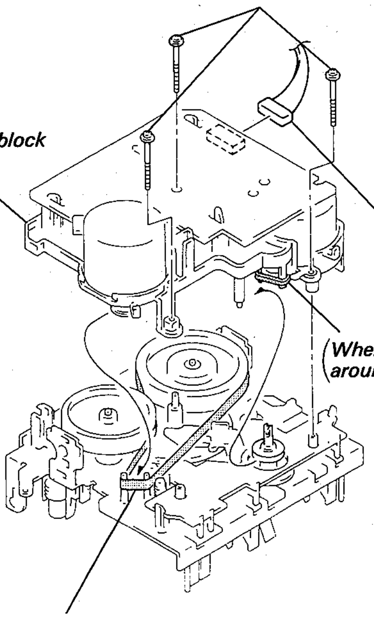
HEAD


❻ head base ass'y
DECK A : HP901
DECK B : HRPE901
❸ claw
❹ lever (pinch lever REV) ass'y
❶ claw
❺ torsion spring
❷ lever (pinch lever FWD) ass'y

MOTOR


❶ connectors
ground plate
❺ capstan motor
DECK A : M901A
DECK B : M901B
❹ screws (B2.6×3)
❷ claw
❸ MD board
belt (FR)
❼ reel motor
DECK A : M902A
DECK B : M902B
❻ screws (P2.6×2.8)

FITTING BASE BLOCK


❷ screws (PTPWH2×23)
❸ fitting base block
❶ connector

(When installing, pull the FR belt and put around the claws as shown below.)

(When installing, pull the capstan belt and put around the claws as shown below.)

SECTION 3
ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcoholmoistened swab;
   - record/playback/erase head
   - pinch roller rubber belts
   - capstan idler
2. Demagnetize the record/playback head with a head demagnetizer.
   (Head demagnetizer do not approach for the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed in the rated power supply voltage unless otherwise noted.

Torque Measurement

Torque	Torque meter	Meter reading
FWD	CQ-102C	35 to 60g • cm (0.49 to 0.83 oz • inch)
FWD Back tension	CQ-102C	2 to 6g•cm (0.03 to 0.08 oz•inch)
REV	CQ-102RC	35 to 60g • cm (0.49 to 0.83 oz • inch)
REV Back tension	CQ-102RC	2 to 6g•cm (0.03 to 0.08 oz•inch)
FF, REW	CQ-201B	70 to 110g • cm (0.98 to 1.52 oz • inch)

3-2. ELECTRICAL ADJUSTMENTS

Note: The adjustment should be performed in the order given in the service manual. As a rule, adjustment about playback should be performed before adjustment about recording.
The adjustments should be performed for both L-CH and R-CH.

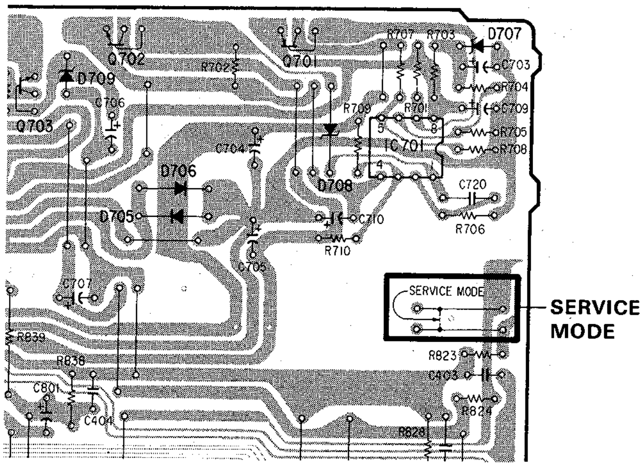
- Test Mode

The Test mode is activated by shorting Test Point Service mode (IC805 34 pin changes over to "L") with the POWER switch in OFF position, then turning on the POWER switch.

In this mode, the following functions operate:

1. Source monitor
   Line mute is cancelled during recording.
2. High speed playback
   High speed playback is executed when the HIGH SPEED (DUBBING) button is jpressed during playback. Normal speed playback is restored when the button is pressed again.
3. Record memory
   The tape counter is reset to "0" at the record start point.
   After adjustment, open the Service mode to cancel the Test mode.

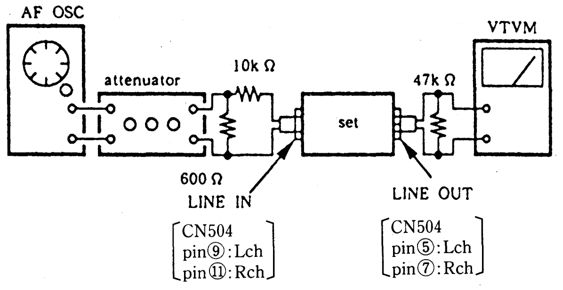
[MAIN BOARD] (CONDUCTOR SIDE)


Q702
D709
Q703
C706
R702
Q701
R707
R703
D707
C703
R704
C709
R705
R708
R709
R701
5
8
IC701
4
1
C704
D706
D708
D705
C720
C710
R706
R710
C705
C707
SERVICE MODE
SERVICE MODE
R839
R838
C801
C404
R823
C403
R824
R828

- Switches and controls should be set as follows unless otherwise specified.
  DD NR switch : OFF
  DIR MODE switch : ⇄

- Standard Record:
  Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

– Record Mode –


AF OSC
attenuator
10k Ω
600 Ω
LINE IN
set
47k Ω
VTVM
LINE OUT
CN504
pin⑨:Lch
pin⑪:Rch
CN504
pin⑤:Lch
pin⑦:Rch

Standard Input Level

input terminal	LINE IN
source impedance	10kΩ
input level	0.25V (−10dB)

Standard Output Level

output terminal	LINE OUT
load impedance	47kΩ
output level	0.44V (−5dB)

Test tape

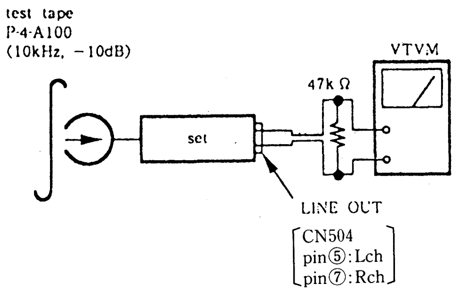
Type	Signal	Used for
P-4-A100	10kHz, −10dB	Azimuth Adjustment
P-4-L300	315Hz, 0dB	PB Level Adjustment
WS-48B	3kHz, 0dB	Tape Speed Adjustment

Record/Playback Head Azimuth Adjustment

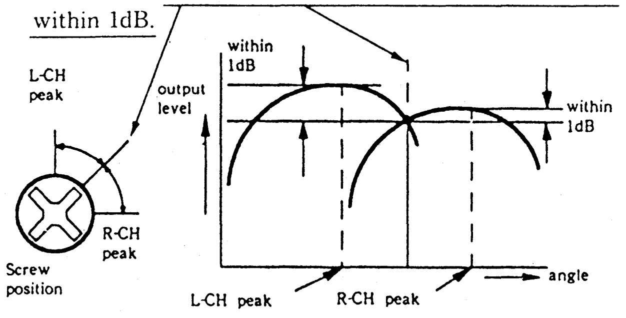
DECK A **DECK B**

Procedure :

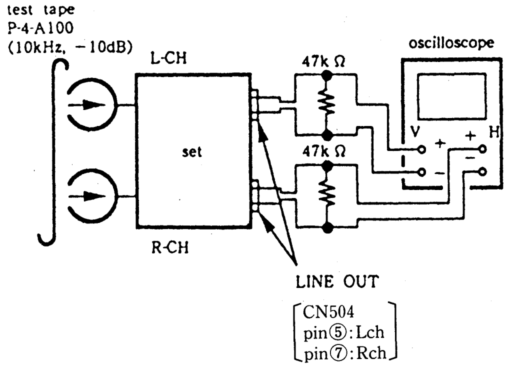
1. Mode: FWD playback

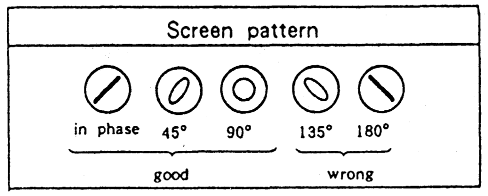

test tape
P-4-A100
(10kHz, −10dB)
set
47k Ω
VTVM
LINE OUT
CN504
pin⑤:Lch
pin⑦:Rch

2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1dB.


within 1dB
L-CH peak
output level
within 1dB
R-CH peak
Screw position
L-CH peak
R-CH peak
angle

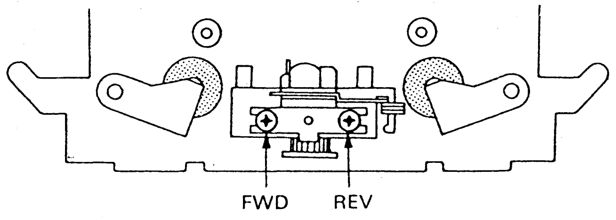
3. Phase Check
   Mode: playback


test tape
P-4-A100
(10kHz, −10dB)
L-CH
R-CH
set
47k Ω
47k Ω
oscilloscope
V
H
+
−
LINE OUT
CN504
pin⑤:Lch
pin⑦:Rch


Screen pattern
in phase
45°
90°
135°
180°
good
wrong

4. Set in the REV mode and repeat the step 1-3.
5. After the adjustment, lock the screws with locking compound.

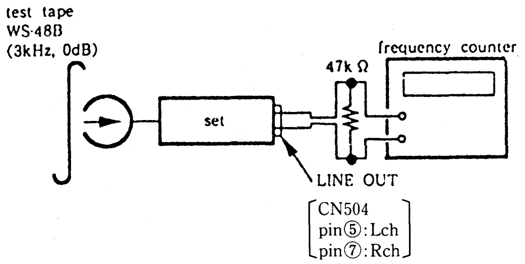
Adjustment Location: Record/playback head



Adjustment screw

Tape Speed Adjustment DECK A DECK B

Procedure :
Mode: playback


test tape
WS-48B
(3kHz, 0dB)
set
47k Ω
frequency counter
LINE OUT
CN504
pin⑤:Lch
pin⑦:Rch

Perform high speed adjustment before normal speed adjustment.

(High speed adjustment)

1. Continue pressing the SYNCHRO DUBBING HIGH SPEED switch.
2. Check that frequency counter reading is within the standard value 6,000±60Hz.
3. If out of the standard, adjust each RV72 so that the frequency counter reading satisfies 6,000±60Hz on both A and B decks.
4. Change over to Rev playback status, and repeat the above steps 1 to 3.

(Normal speed adjustment)

1. Continue pressing the SYNCHRO DUBBING NORM SPEED switch.
2. Check that the frequency counter reading is within the standard value 3,000±30Hz.
3. If out of the standard, adjust each RV71 so that the frequency counter reading satisfies 3,000±30Hz on both A and B decks.
4. Change over to REV blayback status, and repeat the above steps 1 to 3.

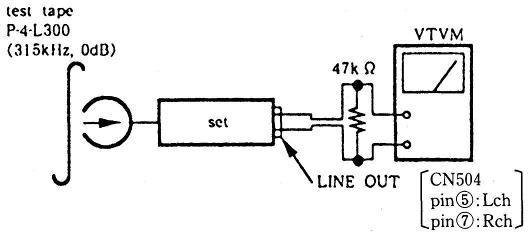
Frequency difference between the beginning and the end of the tape should be within 3%.
Frequency difference between deck A and deck B the beginning of the tape should be within 1.0%.

Adjustment Location :
MD-A, MD-HX board

Playback Level Adjustment

DECK A **DECK B**

Procedure :
Mode: playback


test tape
P-4-L300
(315kHz, 0dB)
set
47k Ω
VTVM
LINE OUT
CN504
pin⑤:Lch
pin⑦:Rch

Adjust RV11 (L-CH), RV21 (R-CH) so that the reading on VTVM meets the adjustment limits below.

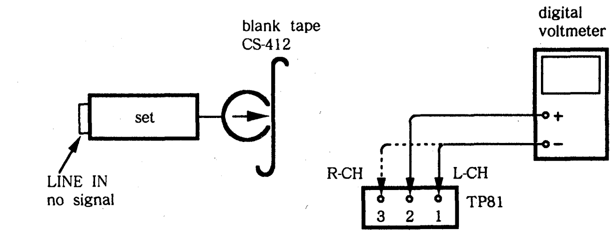
Adjustment Limits :
LINE OUT level: −5±0.5dB (0.42−0.46V)
Level difference between channels: less than 0.5dB
Check that the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location : MD-A, MD-HX board

Bias Consumption Current Adjustment

This adjustment should be performed when replacing the head assy or the bias oscillating transformer (T81,T91).

Procedure :
( ) : R-CH


blank tape
CS-412
digital voltmeter
set
LINE IN
no signal
+
−
R-CH
L-CH
3
2
1
TP81

1. Connect the digital voltmeter to test point TP81.
2. Set RV81 (RV91) to mechanical center.
3. Set to FWD record mode.
4. Adjust T81 (T91) so that the digital voltmeter reading becomes minimum.

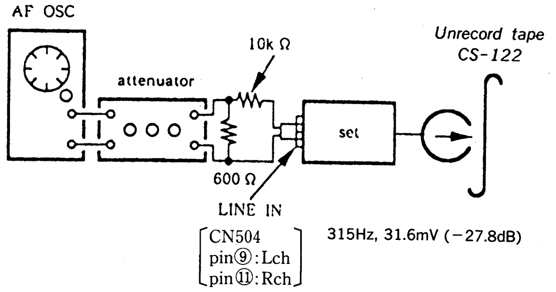
Adjustment Location : MD-HX board

Record Bias Adjustment DECK B

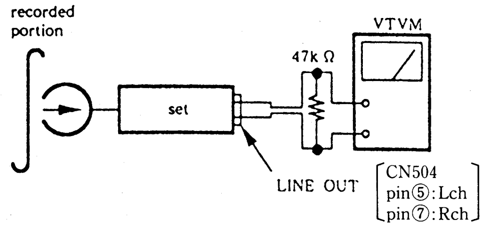
Setting :
REC LEVEL control : Standard Record (See page 7).

Procedure :

1. Mode : record


AF OSC
attenuator
10k Ω
600 Ω
set
Unrecord tape
CS-122
LINE IN
CN504
pin⑨:Lch
pin⑪:Rch
315Hz, 31.6mV (−27.8dB)

2. Mode : playback


recorded
portion
set
47k Ω
VTVM
LINE OUT
CN504
pin⑤:Lch
pin⑦:Rch

Playback the signal recorded in step 1.

Confirm that the 10kHz playback output is 0±0.5dB relative to the 315Hz output. If necessary, adjust RV 81 (L-CH), RV 91 (R-CH) and repeat the steps given above.

Adjustment Location : MD-HX board

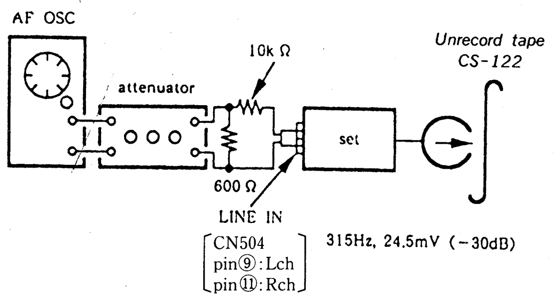
Record Level Adjustment DECK B

Setting :

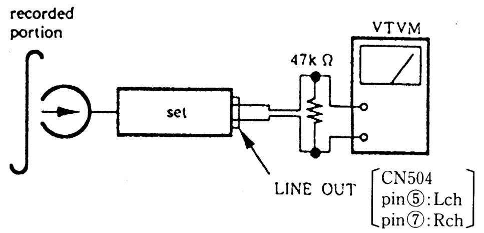
REC LEVEL control : Standard Record (See page 7).

Procedure :

1. Mode: record


AF OSC
attenuator
10k Ω
600 Ω
set
Unrecord tape
CS-122
LINE IN
CN504
pin⑨:Lch
pin⑪:Rch
315Hz, 24.5mV (−30dB)

2. Mode: playback


recorded
portion
set
47k Ω
VTVM
LINE OUT
CN504
pin⑤:Lch
pin⑦:Rch

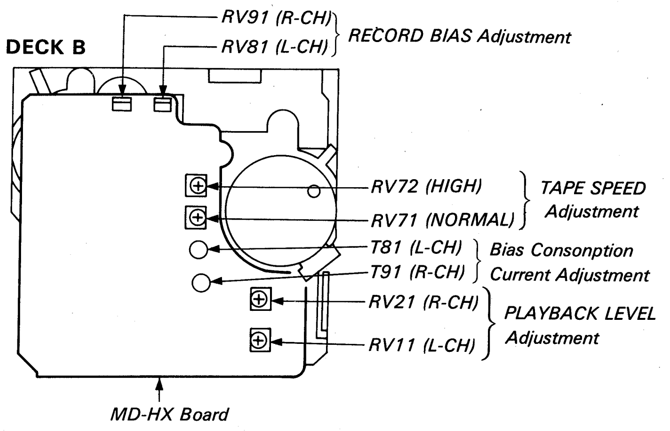
3. Playback the signal recorded in step 1.
Confirm that the signal level is within the adjustment limits below. If necessary, adjust RV101 (L-CH), RV201 (R-CH) and repeat the step 1-2.

Adjustment Limits : −27.7dB±0.5dB (30.2−33.8mV)

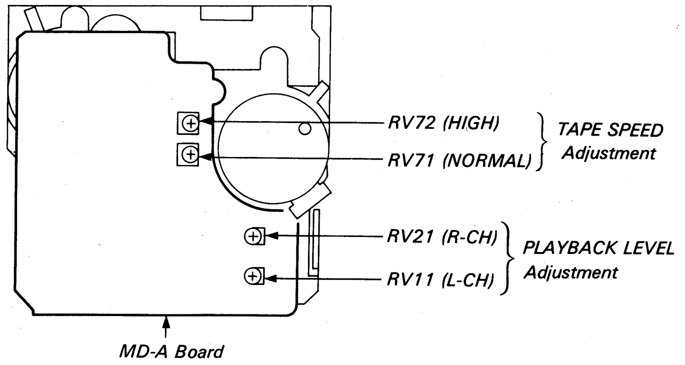
Adjustment Location : MAIN board (component side)

– Adjustment Parts Location Diagrams –

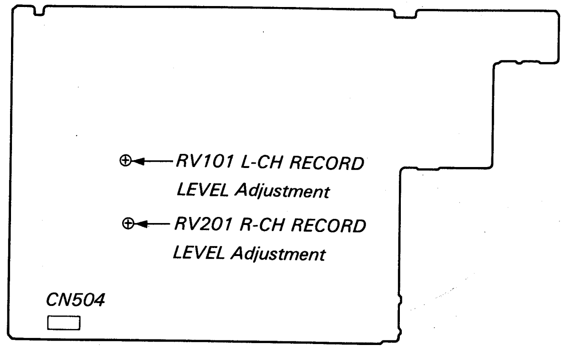
DECK B


RV91 (R-CH)
RV81 (L-CH)
RECORD BIAS Adjustment
RV72 (HIGH)
RV71 (NORMAL)
TAPE SPEED Adjustment
T81 (L-CH)
T91 (R-CH)
Bias Consonption Current Adjustment
RV21 (R-CH)
RV11 (L-CH)
PLAYBACK LEVEL Adjustment
MD-HX Board

DECK A

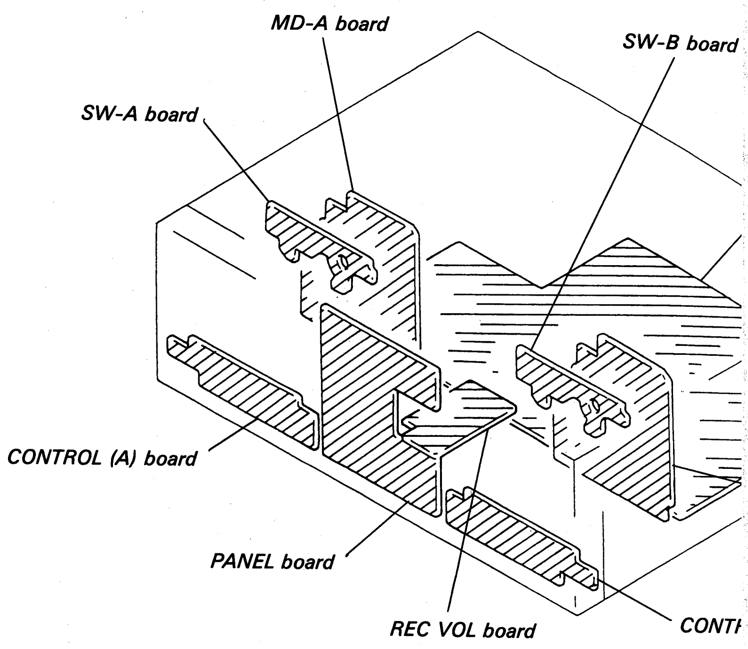

RV72 (HIGH)
RV71 (NORMAL)
TAPE SPEED Adjustment
RV21 (R-CH)
RV11 (L-CH)
PLAYBACK LEVEL Adjustment
MD-A Board

MAIN BOARD (COMPONENT SIDE)


RV101 L-CH RECORD LEVEL Adjustment
RV201 R-CH RECORD LEVEL Adjustment
CN504

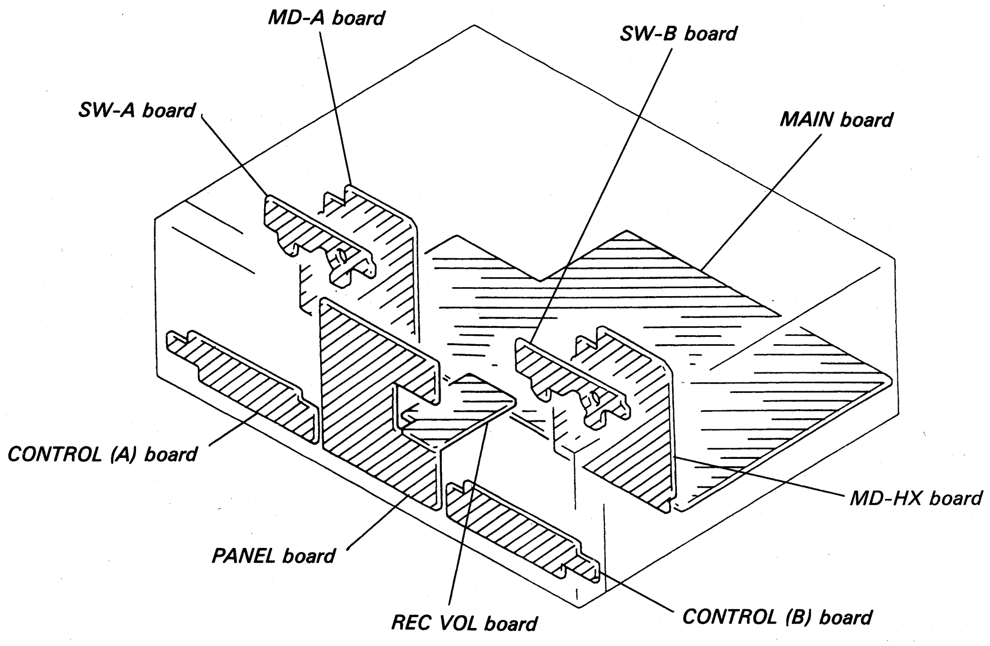
SECTION 4
DIAGRAMS

4-1. CIRCUIT BOARDS LOCATION


MD-A board
SW-B board
SW-A board
CONTROL (A) board
PANEL board
REC VOL board
CONT

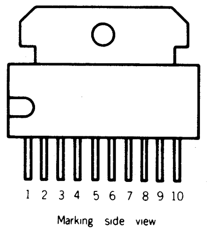
SECTION 4
DIAGRAMS

IRCUIT BOARDS LOCATION

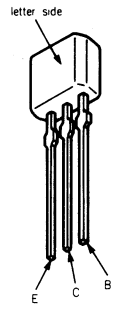

MD-A board
SW-B board
SW-A board
MAIN board
CONTROL (A) board
MD-HX board
PANEL board
REC VOL board
CONTROL (B) board

4-2. SEMICONDUCTOR LEAD LAYOUTS

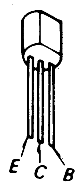
TA7272P


1 2 3 4 5 6 7 8 9 10
Marking side view

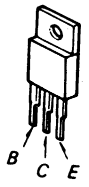
2SA1175-HFE
DTC144ES


letter side
E
C
B

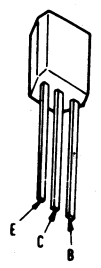
2SB1013-4



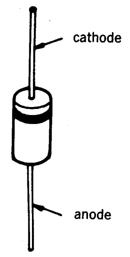
2SB1094-LK
2SD2012



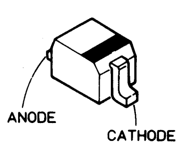
2SC2603-EF
2SC3622A-LK
DTA114ES
DTA144ES
DTC114ES
DTC143TS



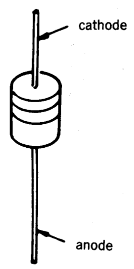
1N4148M
10E2N


cathode
anode

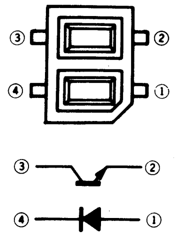
1SS352


ANODE
CATHODE

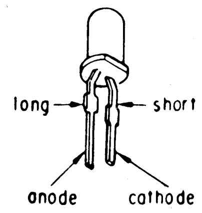
HZS6A1L
HZS9A2L
UZL-7L2


cathode
anode

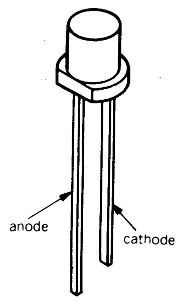
NJL5165K-B



SEL2210S-C


long
short
anode
cathode

SEL2213C-C


anode
cathode

4-3. PRINTED WIRING BOARDS –MAIN Section–

· See page 10, 11 Circuit boards location and Semiconductor lead layouts.

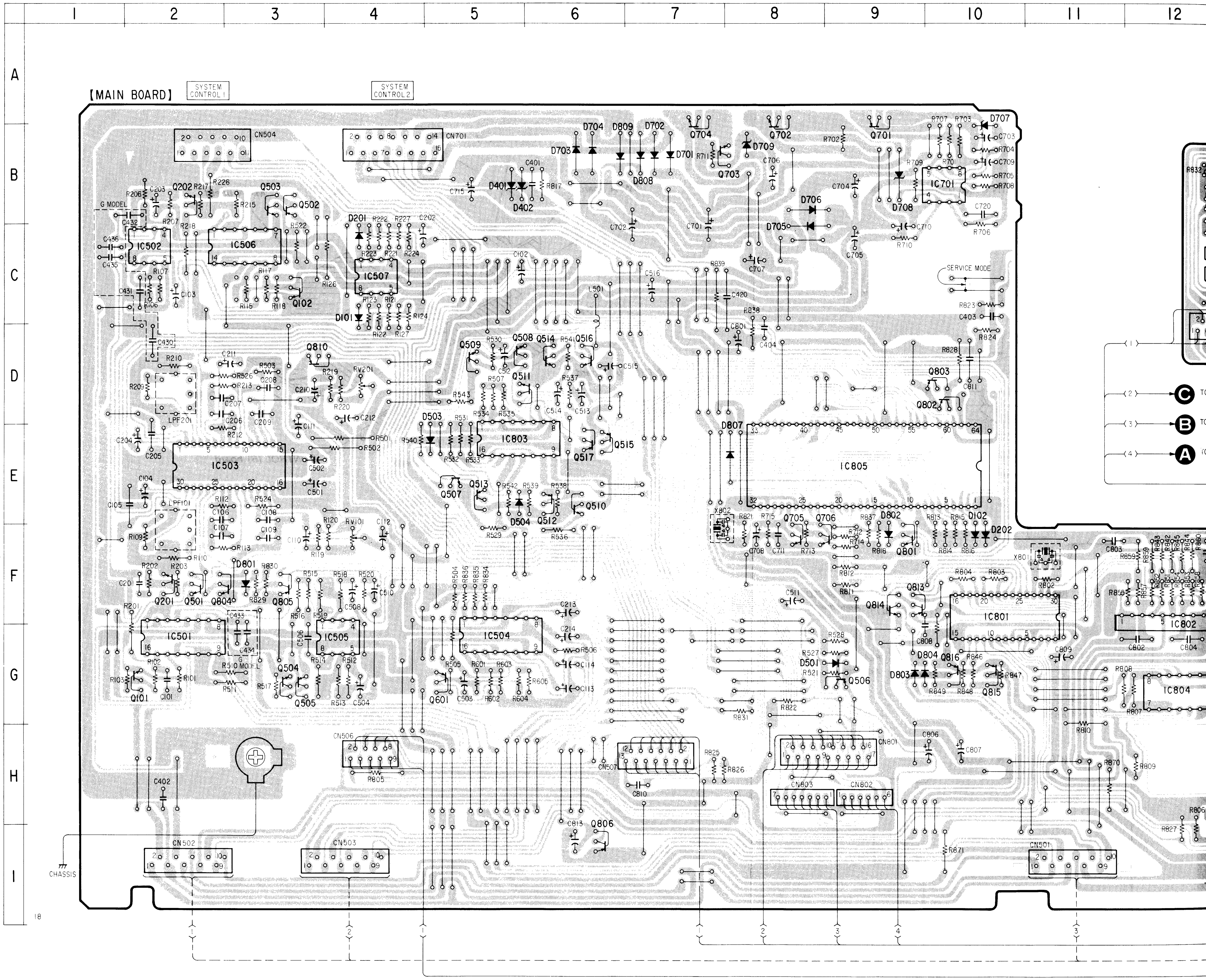
● Semiconductor Location

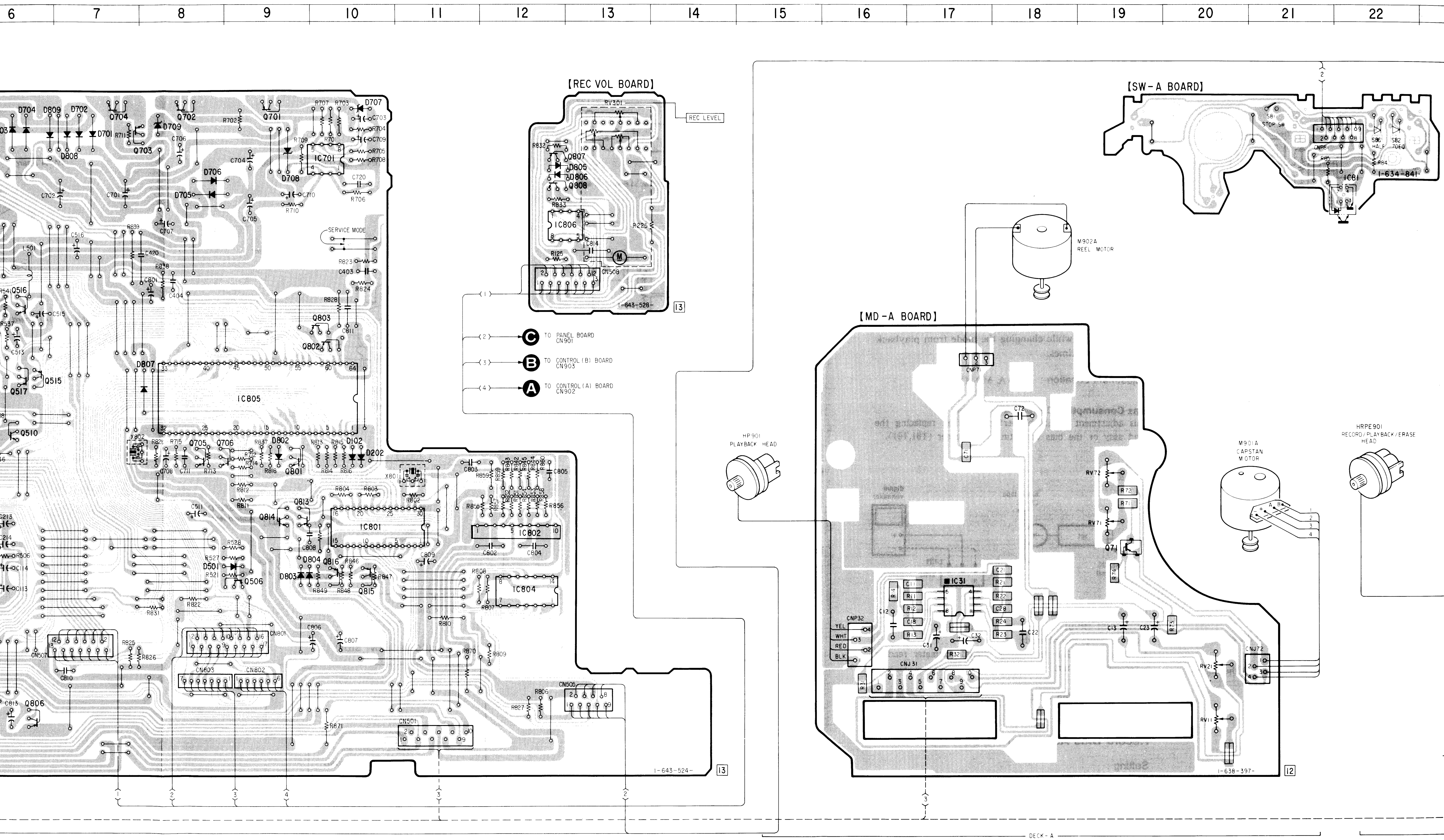
Ref. No.	Location	Ref. No.	Location
D31	G-23	Q51	F-24
D101	C-4	Q52	F-25
D102	F-10	Q53	F-24
D201	C-4	Q71(MD-A)	G-19
D202	F-10	Q71(MD-HX)	G-26
D401	B-5	Q101	G-2
D402	B-5	Q102	C-3
D501	G-9	Q201	F-2
D503	E-5	Q202	B-2
D504	E-5	Q501	F-2
D701	B-7	Q502	B-3
D702	B-7	Q503	B-3
D703	B-6	Q504	G-3
D704	B-6	Q505	G-3
D705	B-8	Q506	G-9
D706	B-8	Q507	E-5
D707	B-10	Q508	D-5
D708	B-9	Q509	D-5
D709	B-8	Q510	E-6
D801	F-3	Q511	D-6
D802	F-9	Q512	E-9
D803	G-9	Q513	E-5
D804	G-10	Q514	D-6
D805	B-12	Q515	E-6
D806	B-12	Q516	D-6
D807	E-8	Q601	G-5
D808	B-7	Q701	A-9
D809	B-6	Q702	A-8
		Q703	B-8
IC31(MD-A)	G-17	Q704	A-7
IC31(MD-HX)	G-25	Q705	F-8
IC81(SW-A)	C-22	Q706	F-9
IC81(SW-HX)	F-25	Q801	F-9
IC501	G-2	Q802	D-10
IC502	C-2	Q803	D-10
IC503	E-3	Q804	F-3
IC504	G-5	Q805	F-3
IC505	G-4	Q806	I-6
IC506	C-3	Q807	B-12
IC507	C-4	Q808	B-12
IC701	B-10	Q810	D-3
IC801	F-10	Q813	F-9
IC802	F-12	Q814	F-9
IC803	E-5	Q815	G-10
IC804	G-12	Q816	G-10
IC805	E-9		
IC806	B-12		

Note:

- ○—— : parts extracted from the component side.
- —— : parts extracted from the conductor side.
- ● : Through hole.
- ▨ : Pattern on the side which is seen.
- ░ : Pattern of the rear side.

G:Germany


1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H
I
[MAIN BOARD]
SYSTEM CONTROL 1
SYSTEM CONTROL 2
CN504
CN701
G MODEL
IC502
IC506
IC507
IC701
Q701
Q702
Q703
Q704
D707
SERVICE MODE
IC503
IC803
IC805
IC501
IC504
IC505
IC801
IC802
IC804
LPF201
LPF101
Q810
Q509
Q508
Q514
Q516
Q511
Q515
Q517
Q513
Q507
Q512
Q510
Q803
Q802
Q201
Q501
Q804
Q805
Q504
Q505
Q101
Q601
Q506
Q813
Q814
Q816
Q815
Q806
Q801
Q705
Q706
X801
X802
CN506
CN507
CN801
CN803
CN802
CN502
CN503
CN501
CHASSIS
C
B
A
18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19
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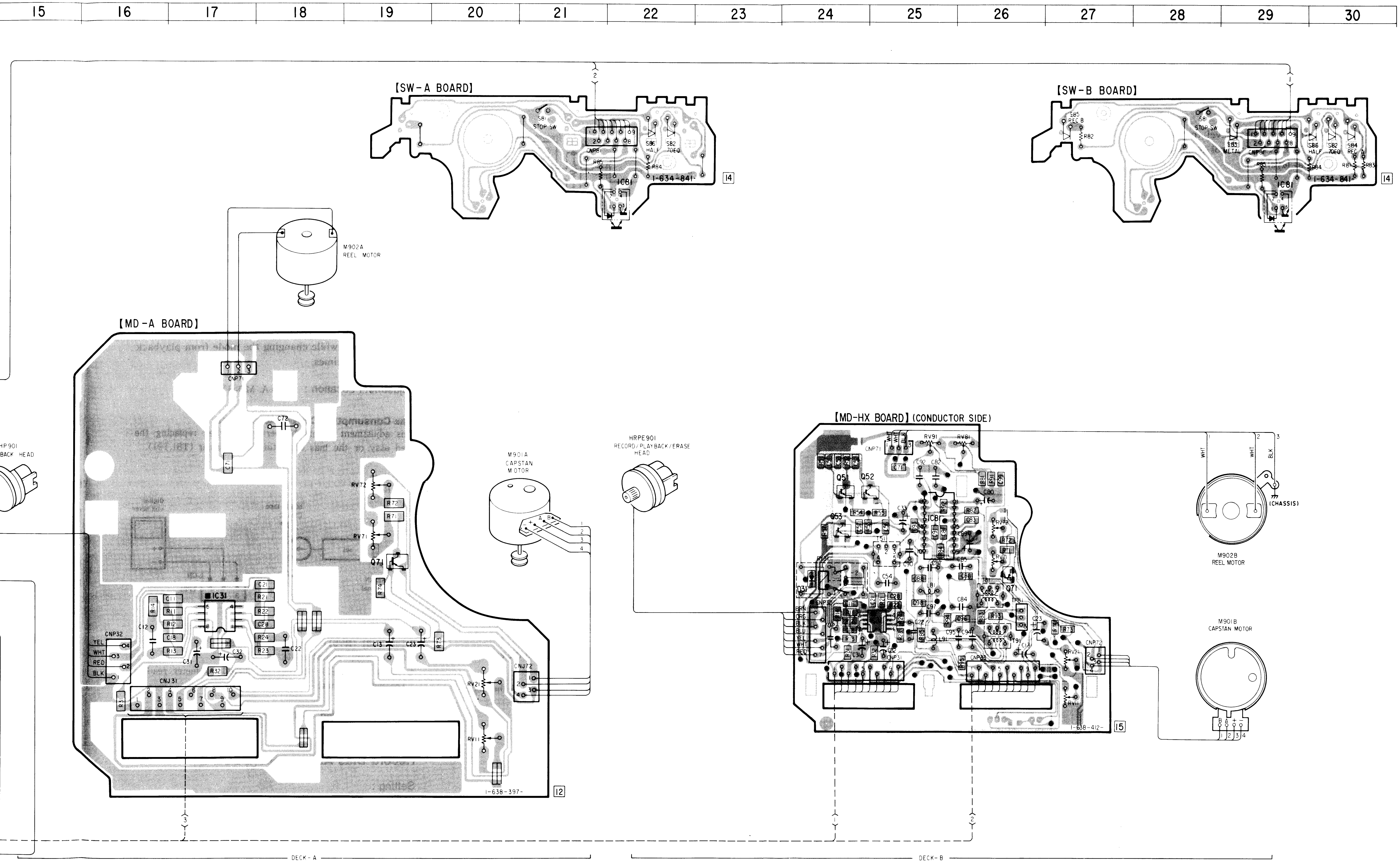
21
22
[REC VOL BOARD]
RV301
REC LEVEL
IC806
CN508
1-643-528-
13
[SW-A BOARD]
S81 STOP SW
S86 HALF
S82 70EQ
CNP81
IC81
1-634-841-
M902A REEL MOTOR
[MD-A BOARD]
CNP71
IC31
CNP32
YEL
WHT
RED
BLK
CNJ31
CNJ72
RV71
RV72
RV11
RV21
Q71
1-638-397-
12
HP901 PLAYBACK HEAD
M901A CAPSTAN MOTOR
HRPE901 RECORD/PLAYBACK/ERASE HEAD
IC805
IC801
IC802
IC804
IC701
SERVICE MODE
TO PANEL BOARD CN901
TO CONTROL (B) BOARD CN903
TO CONTROL (A) BOARD CN902
C
B
A
CN501
CN505
CN507
CN601
CN603
CN802
1-643-524-
13
DECK-A


15
16
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21
22
23
24
25
26
27
28
29
30
【SW-A BOARD】
S81 STOP SW
CNP81
S86 HALF
S82 70EQ
R85
R84
IC81
1-634-841-
14
【SW-B BOARD】
S85 REC B
R82
S81 STOP SW
S83 METAL
CNP81
S86 HALF
S82 70EQ
S84 REC A
R85
R84
R81
R83
IC81
1-634-841-
14
M902A REEL MOTOR
【MD-A BOARD】
CNP71
C72
C71
RV72
R72
R71
RV71
Q71
R74
HP901
BACK HEAD
IC31
C11
R11
R12
C18
R13
R14
C12
C31
C32
R32
C21
R21
R22
C28
R24
R23
C22
C13
C23
R73
CNP32
YEL
WHT
RED
BLK
CNJ31
R31
CNJ72
RV21
RV11
1-638-397-
12
M901A CAPSTAN MOTOR
HRPE901 RECORD/PLAYBACK/ERASE HEAD
【MD-HX BOARD】(CONDUCTOR SIDE)
CNP71
RV91
RV81
Q51
Q52
Q53
IC81
T51
C54
D31
CNP32
BRN
ORG
BLK
BLU
YEL
WHT
RED
CNP31
CNP22
L81
L91
C84
Q71
TR81
T91
C23
CNP72
RV21
RV11
1-638-412-
15
WHT
WHT
BLK
(CHASSIS)
M902B REEL MOTOR
M901B CAPSTAN MOTOR
DECK-A
DECK-B

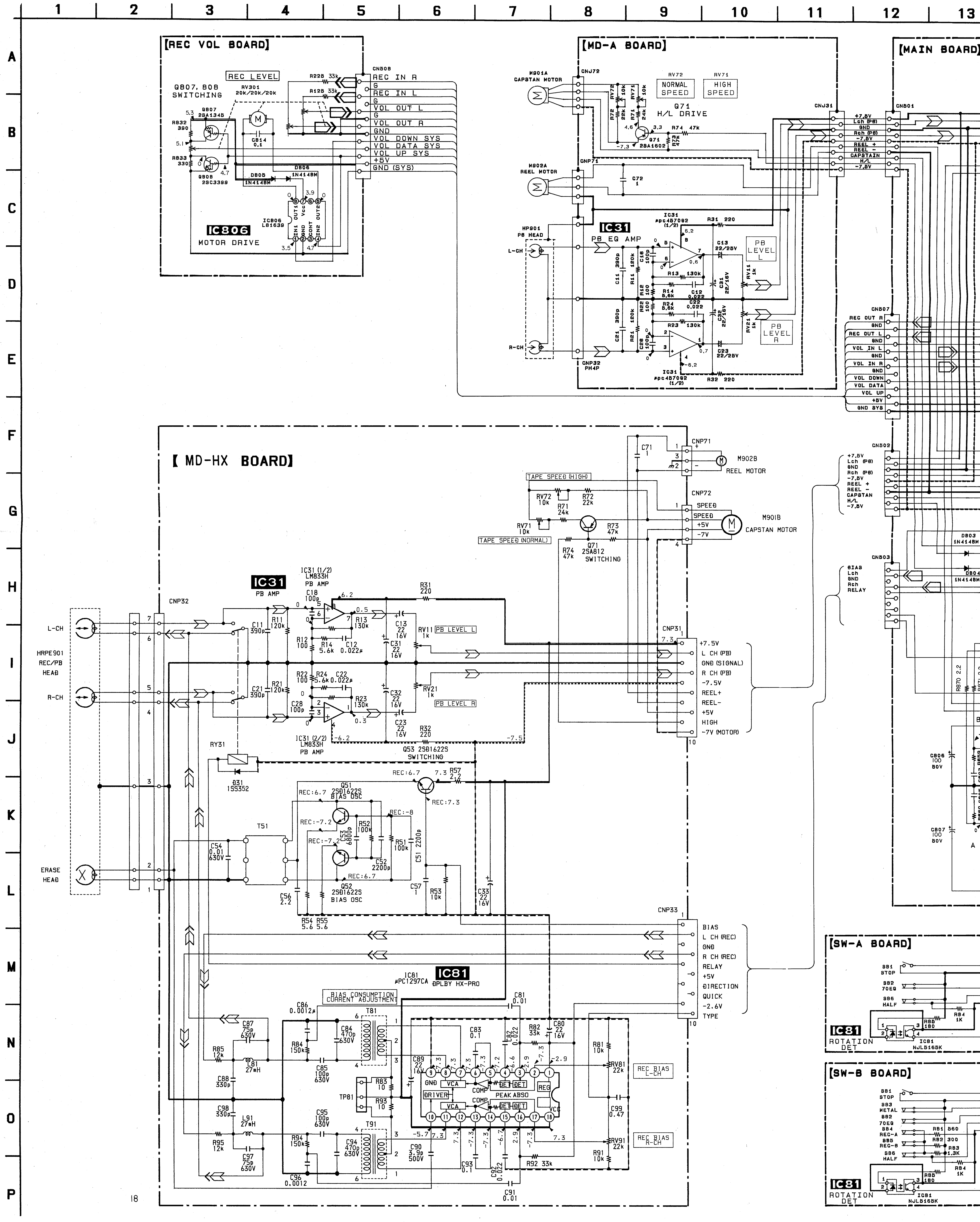
Note:

- All capacitors are in μF unless otherwise noted. pF: $\mu\mu$F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $^1/_4$W or less unless otherwise specified.
- △ : internal component.
- ▭ : nonflammable resistor.
- ▬ : B+ Line
- ▬ ▬ : B– Line
- ▭ : adjustment for repair.

- Voltage is dc with resp
  under no-signal (detuned
  no mark : REC
- Voltages are taken with a
  Voltage variations may
  tion tolerances.
- Signal path.
  - ∑ : PB (DECK A)
  - ▷ : PB (DECK B)
  - ▷» : REC (DECK B)
- G:Germany

4-4. SCHEMATIC DIAGRAMS -MAIN Section-

- **See page 21 for IC Block Diagrams.**



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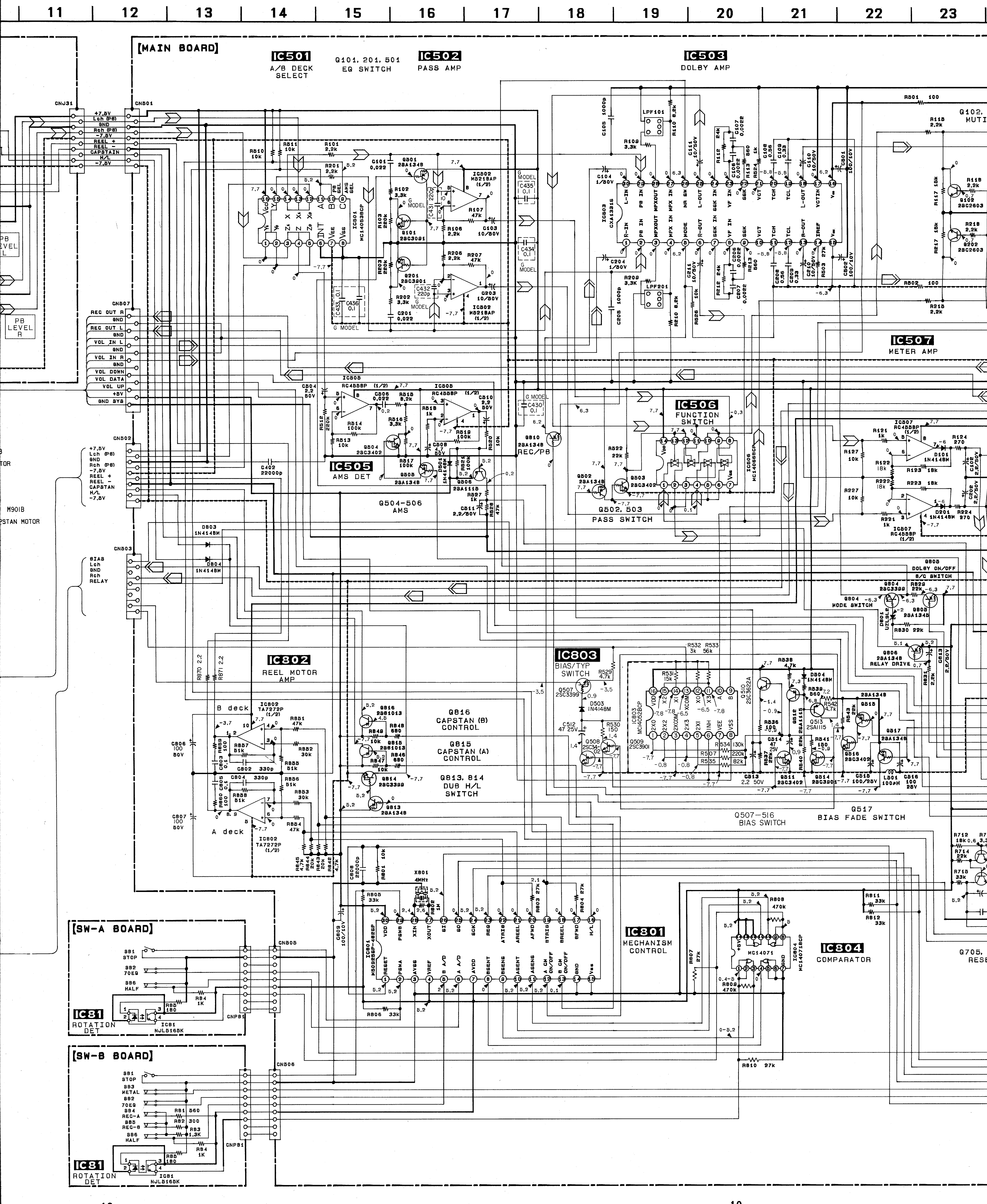
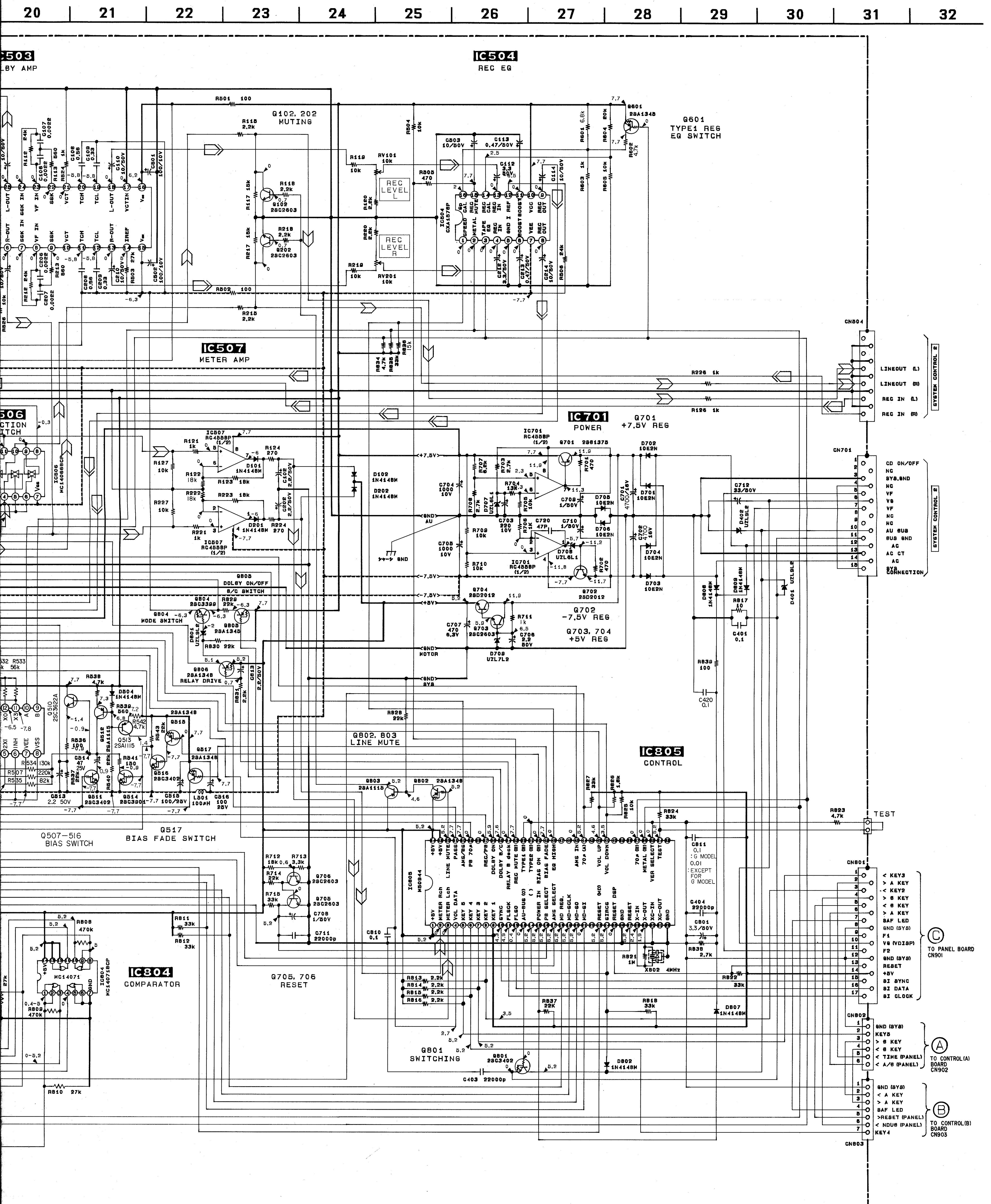
10
11
12
13
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
[REC VOL BOARD]
REC LEVEL
Q807, 808 SWITCHING
RV301 20k/20k/20k
Q807 2SA1345
Q808 2SC3399
C814 0.1
D805 1N4148M
D806 1N4148M
IC806 LB1638
IC806
MOTOR DRIVE
CN508
REC IN R
G
REC IN L
G
VOL OUT L
G
VOL OUT R
GND
VOL DOWN SYS
VOL DATA SYS
VOL UP SYS
+5V
GND (SYS)
[MD-A BOARD]
M901A CAPSTAN MOTOR
CNJ72
RV72 NORMAL SPEED
RV71 HIGH SPEED
Q71 H/L DRIVE
Q71 2SA1602
R74 47k
M902A REEL MOTOR
CNP71
C72 1
HP901 PB HEAD
L-CH
R-CH
IC31
PB EQ AMP
IC31 µPC4570G2 (1/2)
R31 220
C13 22/25V
PB LEVEL L
PB LEVEL R
RV11 1k
RV21 1k
R13 130k
R23 130k
R32 220
CNP32 PH4P
CNJ31
[MAIN BOARD]
CN501
+7.5V
Lch (PB)
GND
Rch (PB)
-7.5V
REEL +
REEL -
CAPSTAN H/L
-7.5V
CN507
REC OUT R
GND
REC OUT L
GND
VOL IN L
GND
VOL IN R
GND
VOL DOWN
VOL DATA
VOL UP
+5V
GND SYS
CN502
CN503
BIAS
Lch
GND
Rch
RELAY
D803 1N4148M
D804 1N4148M
C806 100 50V
C807 100 50V
[MD-HX BOARD]
CNP71
M902B REEL MOTOR
C71 1
TAPE SPEED (HIGH)
TAPE SPEED (NORMAL)
RV72 10k
RV71 10k
R71 24k
R72 22k
R73 47k
R74 47k
Q71 2SA812 SWITCHING
CNP72
SPEED
+5V
-7V
M901B CAPSTAN MOTOR
IC31
PB AMP
IC31 (1/2) LM833H PB AMP
IC31 (2/2) LM833H PB AMP
CNP32
HRPE901 REC/PB HEAD
ERASE HEAD
C11 390p
R11 120k
C18 100p
R12 100
R14 5.6k
C12 0.022µ
C21 390p
R21 120k
R22 100
R24 5.6k
C22 0.022µ
C28 100p
R23 130k
C13 22 16V
C31 22 16V
C32 22 16V
C23 22 16V
RV11 1k
PB LEVEL L
RV21 1k
PB LEVEL R
R31 220
R32 220
CNP31
+7.5V
L CH (PB)
GND (SIGNAL)
R CH (PB)
-7.5V
REEL+
REEL-
+5V
HIGH
-7V (MOTOR)
RY31
D31 1SS352
Q53 2SD1622S SWITCHING
R57 2.2
Q51 2SD1622S BIAS OSC
Q52 2SD1622S BIAS OSC
T51
C54 0.01 630V
C53 6800p
R52 100k
R51 100k
C51 2200p
C52 2200p
C56 2.2
C57 1
R53 10k
C33 22 16V
R54 5.6
R55 5.6
CNP33
BIAS
L CH (REC)
GND
R CH (REC)
RELAY
+5V
DIRECTION
QUICK
-2.6V
TYPE
IC81
IC81 µPC1297CA DOLBY HX-PRO
BIAS CONSUMPTION CURRENT ADJUSTMENT
C86 0.0012µ
T81
C87 75p 630V
R84 150k
C84 470p 630V
C85 100p 630V
R85 12k
L81 27mH
C88 330p
R83 10
R93 10
TP81
C98 330p
L91 27mH
C95 100p 630V
T91
R95 12k
C97 75p 630V
R94 150k
C94 470p 630V
C96 0.0012
C90 3.9p 500V
C89 22 16V
C83 0.1
C82 0.022
R82 33k
C80 22 16V
C81 0.01
C93 0.1
C92 0.022
R92 33k
C91 0.01
GND
VCA
DET
DET
REG
DRIVER
COMP
PEAK ABSO
VCC
R81 10k
RV81 22k
REC BIAS L-CH
C99 0.47
RV91 22k
R91 10k
REC BIAS R-CH
[SW-A BOARD]
S81 STOP
S82 70EQ
S86 HALF
R84 1K
R85 180
IC81
ROTATION DET
IC81 NJL5165K
[SW-B BOARD]
S81 STOP
S83 METAL
S82 70EQ
S84 REC-A
S85 REC-B
S86 HALF
R81 560
R82 300
R83 1.3K
R84 1K
R85 180
IC81
ROTATION DET
IC81 NJL5165K
18

e noted. pF: μμF
for electrolytics

unless otherwise

- Voltage is dc with respect to ground under no-signal (detuned) conditions. no mark: REC
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  - ⊃⊃ : PB (DECK A)
  - ▭ : PB (DECK B)
  - ▭» : REC (DECK B)
- G:Germany


11
12
13
14
15
16
17
18
19
20
21
22
23
[MAIN BOARD]
IC501
A/B DECK SELECT
Q101, 201, 501
EQ SWITCH
IC502
PASS AMP
IC503
DOLBY AMP
Q102, MUTI
CNJ31
CN501
+7.5V
Lch (PB)
GND
Rch (PB)
-7.5V
REEL +
REEL -
CAPSTAIN
H/L
-7.5V
PB LEVEL L
PB LEVEL R
CN507
REC OUT R
GND
REC OUT L
GND
VOL IN L
GND
VOL IN R
GND
VOL DOWN
VOL DATA
VOL UP
+5V
GND SYS
G MODEL
IC505
AMS DET
Q504-506
AMS
Q510
2SA1348
REC/PB
IC506
FUNCTION SWITCH
Q502, 503
PASS SWITCH
IC507
METER AMP
Q805
DOLBY ON/OFF
B/C SWITCH
Q804
MODE SWITCH
Q806
RELAY DRIVE
CN502
M901B
CAPSTAN MOTOR
CN503
BIAS
Lch
GND
Rch
RELAY
IC802
REEL MOTOR AMP
B deck
A deck
IC802
TA7272P (1/2)
Q816
CAPSTAN (B) CONTROL
Q815
CAPSTAN (A) CONTROL
Q813, 814
DUB H/L SWITCH
IC803
BIAS/TYP SWITCH
Q507-516
BIAS SWITCH
Q517
BIAS FADE SWITCH
X801
4MHz
IC801
MECHANISM CONTROL
IC804
COMPARATOR
Q705, RESE
[SW-A BOARD]
S81 STOP
S82 70EQ
S86 HALF
IC81
ROTATION DET
NJL5165K
CN505
CNP81
[SW-B BOARD]
S81 STOP
S83 METAL
S82 70EQ
S84 REC-A
S85 REC-B
S86 HALF
IC81
ROTATION DET
NJL5165K
CN506
CNP81



20
21
22
23
24
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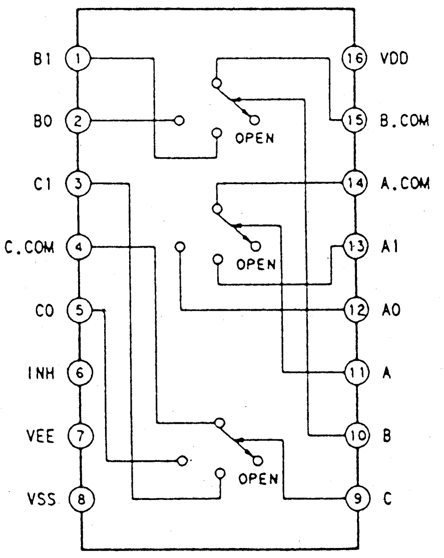
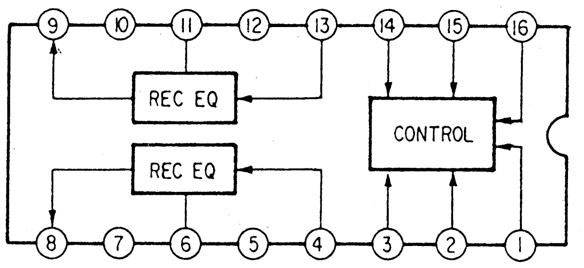
26
27
28
29
30
31
32
IC503
LBY AMP
IC504
REC EQ
Q102, 202
MUTING
Q601
TYPE1 REG
EQ SWITCH
REC LEVEL L
REC LEVEL R
IC504 CXA1578P
IC507
METER AMP
IC506 MC14066BCP
IC701
POWER
Q701
+7.5V REG
Q702
-7.5V REG
Q703, 704
+5V REG
Q805
DOLBY ON/OFF
B/C SWITCH
Q804 MODE SWITCH
Q806 RELAY DRIVE
Q507-516
BIAS SWITCH
Q517
BIAS FADE SWITCH
Q802, 803
LINE MUTE
IC805
CONTROL
IC805 M50944
IC804
COMPARATOR
IC804 MC14071BCP
Q705, 706
RESET
Q801
SWITCHING
TEST
CN504
LINEOUT (L)
LINEOUT (R)
REC IN (L)
REC IN (R)
SYSTEM CONTROL 2
CN701
CD ON/OFF
NC
SYS.GND
NC
VS
VF
NC
NC
AU BUS
BUS GND
AC
AC CT
AC
SYS CONNECTION
SYSTEM CONTROL 2
CN801
< KEY3
> A KEY
< KEY2
> B KEY
< B KEY
< A KEY
BAF LED
GND (SYS)
F1
VS (VDISP)
F2
GND (SYS)
RESET
+5V
SI SYNC
SI DATA
SI CLOCK
Ⓒ
TO PANEL BOARD CN901
CN802
GND (SYS)
KEY5
> B KEY
< B KEY
< TIME (PANEL)
< A/B (PANEL)
Ⓐ
TO CONTROL(A) BOARD CN902
GND (SYS)
< A KEY
> A KEY
BAF LED
>RESET (PANEL)
< NDUB (PANEL)
KEY4
Ⓑ
TO CONTROL(B) BOARD CN903
CN803
+7.5V
GND AU
-7.5V
+5V
GND MOTOR
GND SYS
X802 4MHz
C811 0.1 : G MODEL 0.01 : EXCEPT FOR G MODEL

- **IC Block Diagrams**

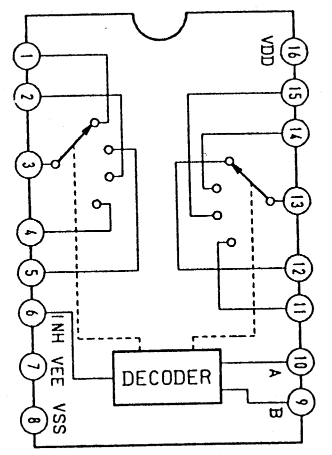
IC501 μPD4053BC


B1
B0
C1
C.COM
CO
INH
VEE
VSS
VDD
B.COM
A.COM
A1
AO
A
B
C
OPEN
OPEN
OPEN

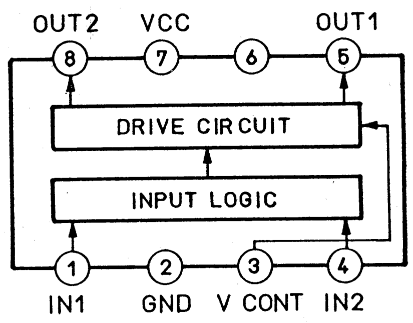
IC504 CXA1578P


REC EQ
REC EQ
CONTROL

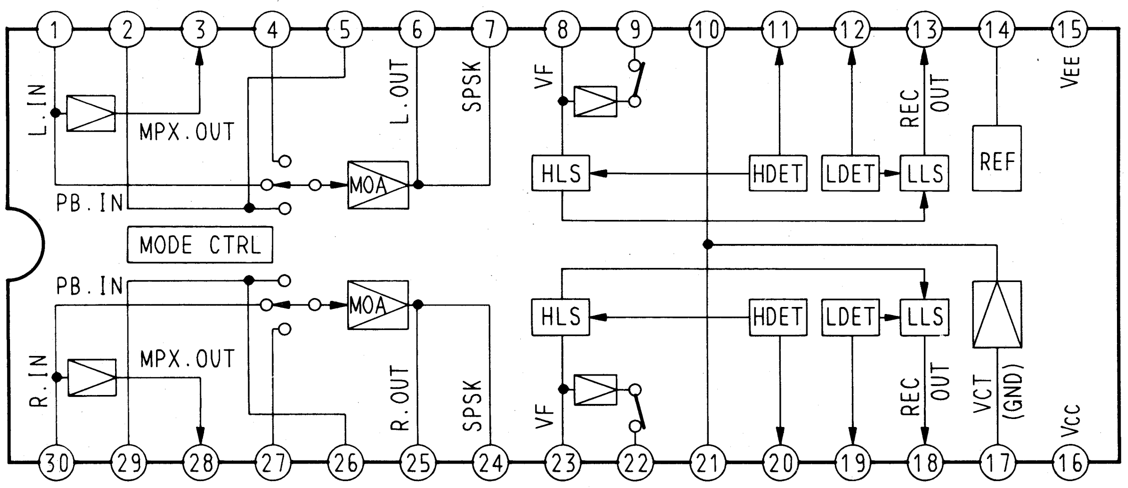
IC803 MC14052BCP


VDD
INH
VEE
VSS
DECODER
A
B

IC806 LB1639


OUT2
VCC
OUT1
DRIVE CIRCUIT
INPUT LOGIC
IN1
GND
V CONT
IN2

IC503 CXA1331S

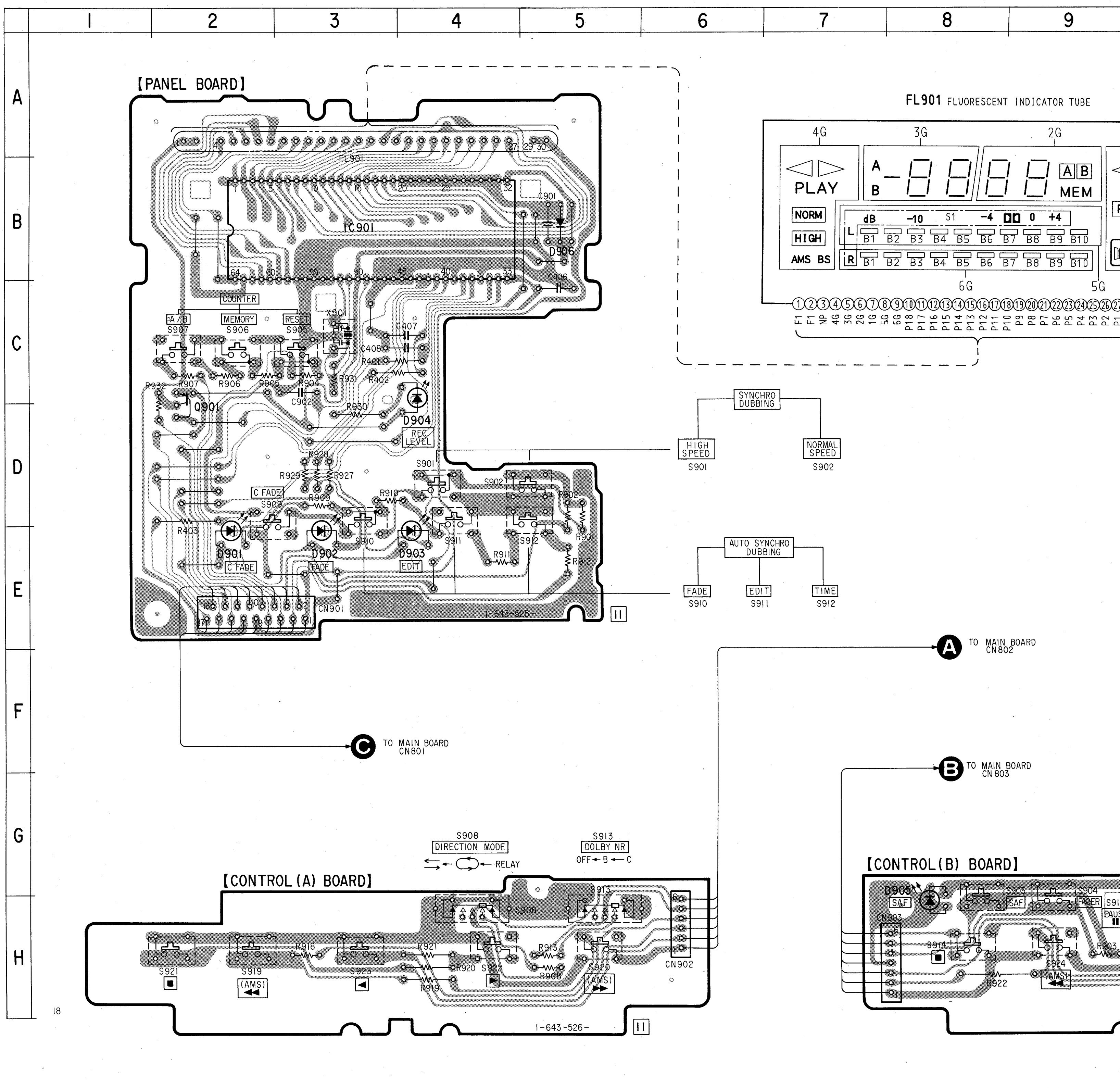

L.IN
MPX.OUT
PB.IN
MOA
L.OUT
SPSK
VF
HLS
HDET
LDET
LLS
REC OUT
REF
VEE
MODE CTRL
PB.IN
MOA
R.IN
MPX.OUT
R.OUT
SPSK
VF
HLS
HDET
LDET
LLS
REC OUT
VCT (GND)
Vcc

4-5. PRINTED WIRING BOARDS –PANEL Section–

· See page 10, 11 Circuit boards location and Semiconductor lead layouts.

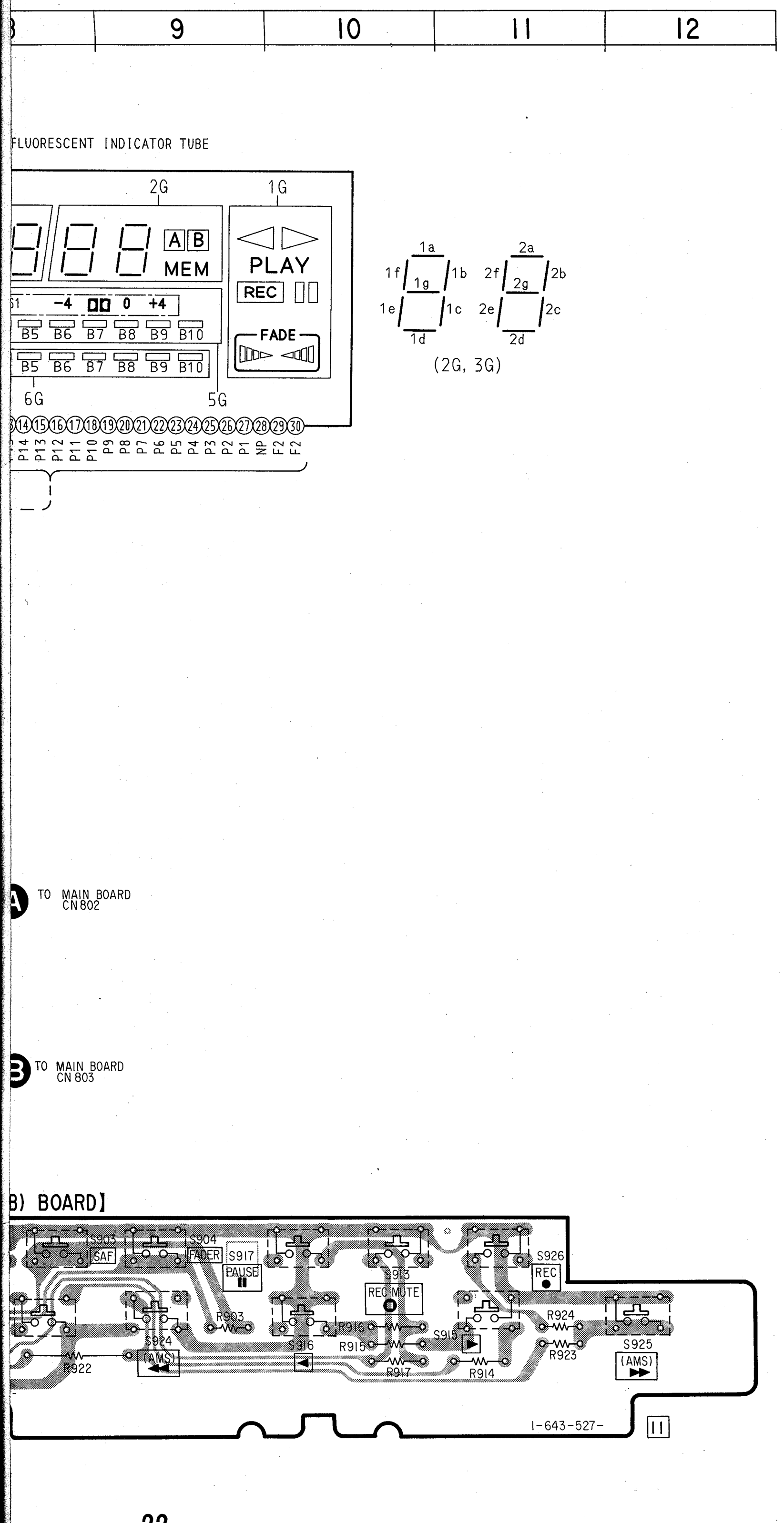
- **Semiconductor Location**

Ref. No.	Location
D901	E-2
D902	E-3
D903	E-4
D904	D-4
D905	H-8
D906	B-5
IC901	B-3
Q901	D-2

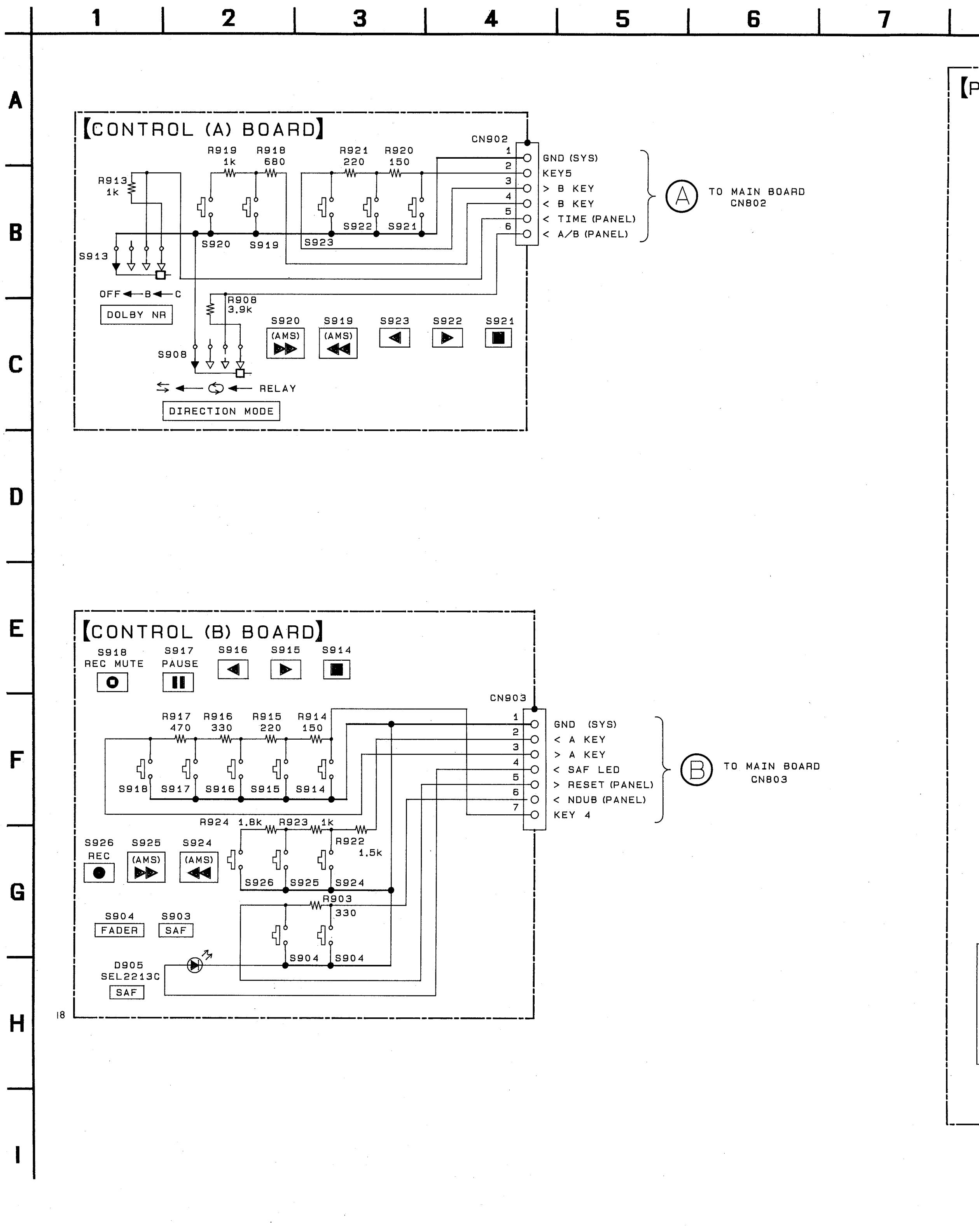

1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
H
[PANEL BOARD]
FL901
IC901
COUNTER
A/B
MEMORY
RESET
REC LEVEL
C FADE
FADE
EDIT
CN901
1-643-525-
11
FL901 FLUORESCENT INDICATOR TUBE
PLAY
NORM
HIGH
AMS BS
MEM
SYNCHRO DUBBING
HIGH SPEED S901
NORMAL SPEED S902
AUTO SYNCHRO DUBBING
FADE S910
EDIT S911
TIME S912
TO MAIN BOARD CN802
TO MAIN BOARD CN801
TO MAIN BOARD CN803
S908 DIRECTION MODE
RELAY
S913 DOLBY NR
OFF B C
[CONTROL (A) BOARD]
CN902
1-643-526-
[CONTROL (B) BOARD]
D905
CN903
18

Note:

- ○—— : parts extracted from the component side.
- ░ : Pattern on the side which is seen.

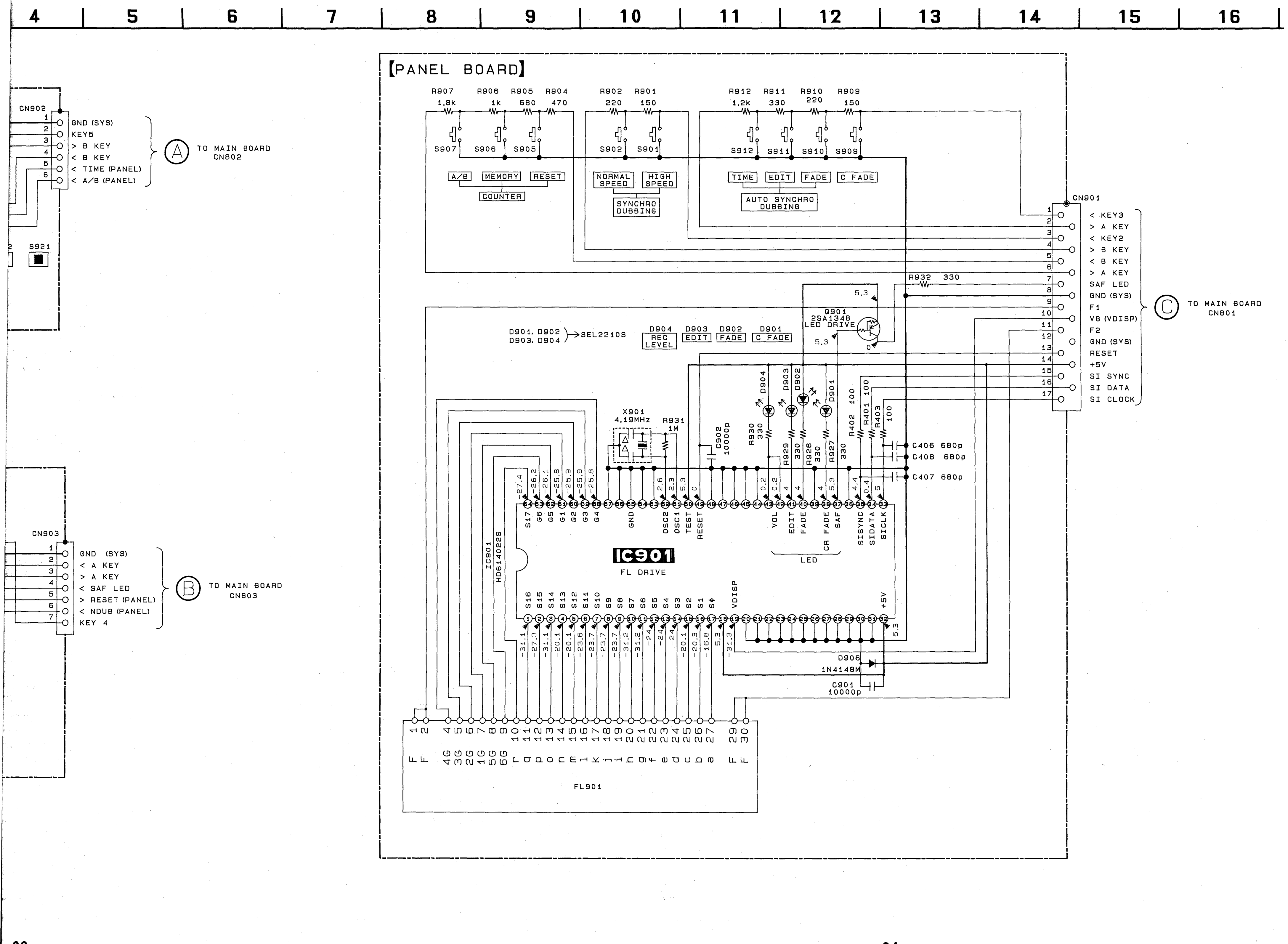

9
10
11
12
FLUORESCENT INDICATOR TUBE
2G
1G
A B
MEM
PLAY
REC
-4
0
+4
B5 B6 B7 B8 B9 B10
FADE
6G
5G
1a 1f 1g 1b 1e 1c 1d
2a 2f 2g 2b 2e 2c 2d
(2G, 3G)
TO MAIN BOARD CN802
TO MAIN BOARD CN 803
B) BOARD]
S903 SAF
S904 FADER
S917 PAUSE
S918 REC MUTE
S926 REC
S924 (AMS)
S916
S915
S925 (AMS)
R903
R916
R915
R917
R914
R922
R923
R924
1-643-527-
11

4-6. SCHEMATIC DIAGRAMS -PANEL Section-


1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
[CONTROL (A) BOARD]
CN902
R919 1k
R918 680
R921 220
R920 150
R913 1k
S920
S919
S923
S922
S921
S913
OFF ◀—B◀—C
DOLBY NR
R908 3.9k
S908
(AMS)
RELAY
DIRECTION MODE
GND (SYS)
KEY5
> B KEY
< B KEY
< TIME (PANEL)
< A/B (PANEL)
TO MAIN BOARD CN802
[CONTROL (B) BOARD]
S918 REC MUTE
S917 PAUSE
S916
S915
S914
CN903
R917 470
R916 330
R915 220
R914 150
S918 S917 S916 S915 S914
R924 1.8k
R923 1k
R922 1.5k
S926 REC
S925 (AMS)
S924 (AMS)
S926 S925 S924
R903 330
S904 FADER
S903 SAF
S904 S904
D905 SEL2213C
SAF
GND (SYS)
< A KEY
> A KEY
< SAF LED
> RESET (PANEL)
< NDUB (PANEL)
KEY 4
TO MAIN BOARD CN803
18

Note:

- All capacitors are in μF unless otherwise noted. pF: $\mu\mu$F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $^1/_4$W or less unless otherwise specified.
- △ : internal component.
- ▬ : B+ Line
- Voltage is dc with respect to ground under no-signal (detuned) conditions. no mark : REC
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.



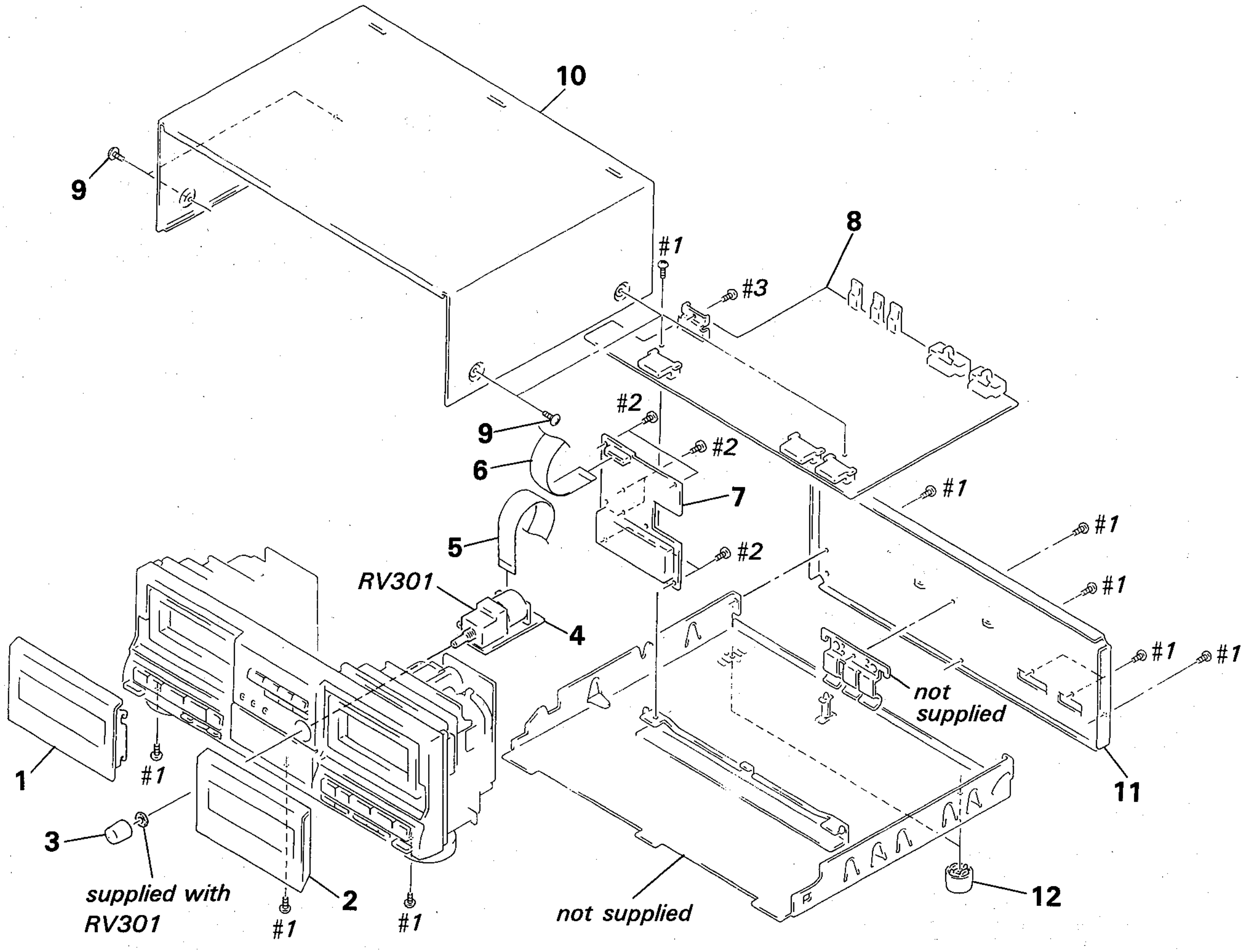
4
5
6
7
8
9
10
11
12
13
14
15
16
[PANEL BOARD]
R907 1.8k
R906 1k
R905 680
R904 470
R902 220
R901 150
R912 1.2k
R911 330
R910 220
R909 150
S907
S906
S905
S902
S901
S912
S911
S910
S909
A/B
MEMORY
RESET
COUNTER
NORMAL SPEED
HIGH SPEED
SYNCHRO DUBBING
TIME
EDIT
FADE
C FADE
AUTO SYNCHRO DUBBING
CN902
GND (SYS)
KEY5
> B KEY
< B KEY
< TIME (PANEL)
< A/B (PANEL)
A
TO MAIN BOARD CN802
S921
CN903
GND (SYS)
< A KEY
> A KEY
< SAF LED
> RESET (PANEL)
< NDUB (PANEL)
KEY 4
B
TO MAIN BOARD CN803
CN901
< KEY3
> A KEY
< KEY2
> B KEY
< B KEY
> A KEY
SAF LED
GND (SYS)
F1
VG (VDISP)
F2
GND (SYS)
RESET
+5V
SI SYNC
SI DATA
SI CLOCK
C
TO MAIN BOARD CN801
R932 330
Q901 2SA1348 LED DRIVE
5.3
D901, D902, D903, D904 SEL2210S
D904 REC LEVEL
D903 EDIT
D902 FADE
D901 C FADE
R930 330
R929 330
R928 330
R927 330
R402 100
R401 100
R403 100
C406 680p
C408 680p
C407 680p
X901 4.19MHz
R931 1M
C902 10000p
IC901 HD614022S
IC901
FL DRIVE
S17 G6 G5 G1 G2 G3 G4 GND OSC2 OSC1 TEST RESET VOL EDIT FADE CR FADE SAF SISYNC SIDATA SICLK
LED
S16 S15 S14 S13 S12 S11 S10 S9 S8 S7 S6 S5 S4 S3 S2 S1 S0 VDISP +5V
D906 1N4148M
C901 10000p
FL901
F F 4G 3G 2G 1G 5G 6G r q p o c m l k j i h g f e d c b a F F

SECTION 5
EXPLODED VIEWS

NOTE:
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE(WHITE)...(RED)
  ↑ ↑
  Parts color Cabinet's color
- Items marked " ＊ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- hardware (#mark) list is given in the last of this parts list.

G:Germany EA:Saudi Arabia
IT:Italian AUS:Australian

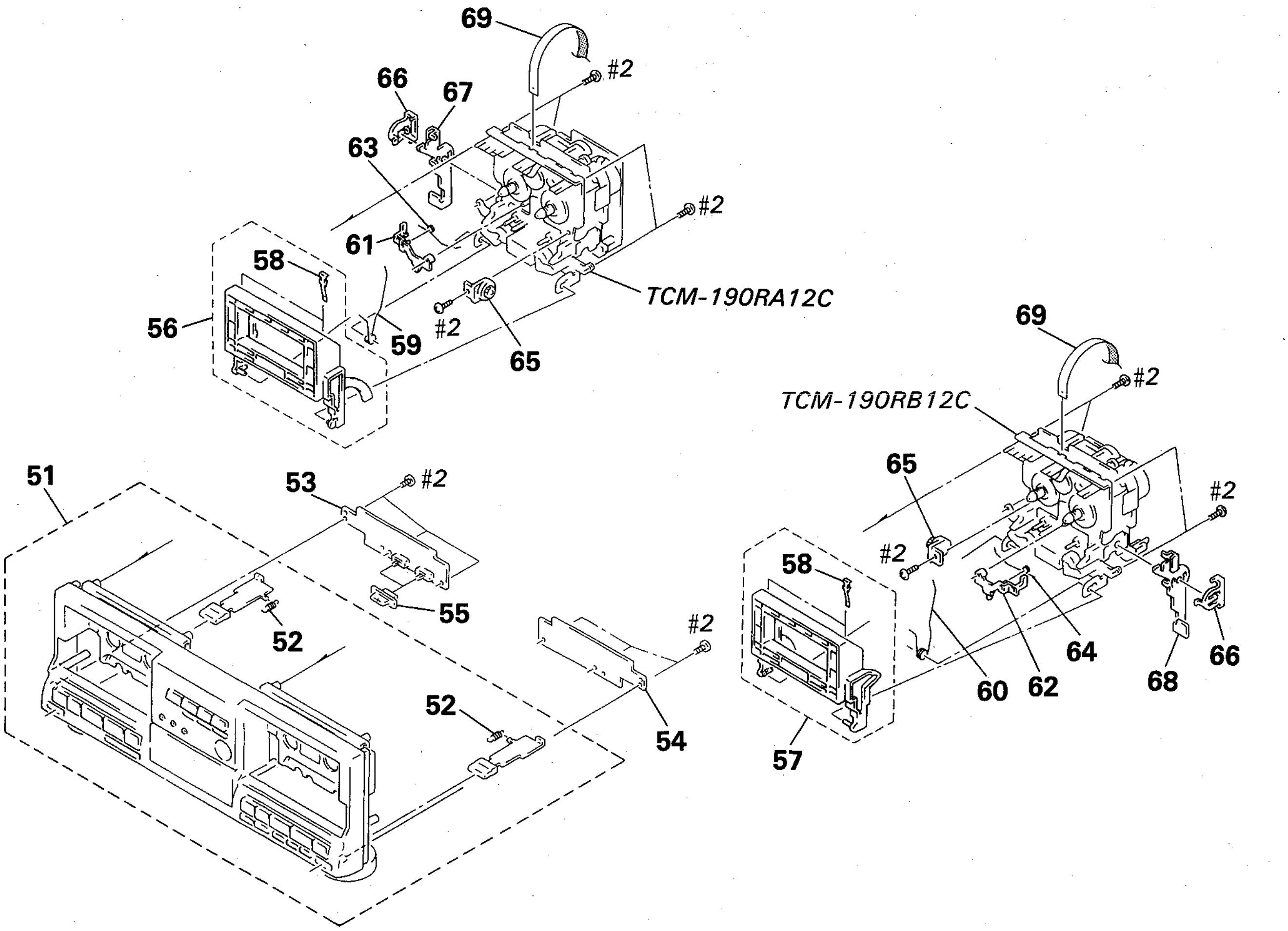
5-1. OVERALL SECTION



Ref. No.	Part No.	Description	Remark
1	X-3364-983-1	LID (A) ASSY, CASSETTE (EXCEPT IT)	
1	X-3364-984-1	LID (A) ASSY, CASSETTE (IT)	
2	X-3364-985-1	LID (B) ASSY, CASSETTE (EXCEPT IT)	
2	X-3364-986-1	LID (B) ASSY, CASSETTE (IT)	
3	4-950-651-21	KNOB (DIA. 16), ROUND (IT)	
3	4-950-651-31	KNOB (DIA. 16), ROUND (EXCEPT IT)	
* 4	1-643-528-11	REC VOL BOARD	
* 5	1-574-726-11	WIRE, FLAT TYPE (13 CORE)	
6	1-690-907-11	WIRE (FLAT TYPE) (17 CORE)	
* 7	A-2006-797-A	PANEL BOARD, COMPLETE	

Ref. No.	Part No.	Description	Remark
* 8	A-2006-796-A	MAIN BOARD, COMPLETE (EXCEPT G)	
* 8	A-2006-837-A	MAIN BOARD, COMPLETE (G)	
9	3-363-099-01	SCREW (CASE +3X8 TP2)	
* 10	4-939-803-31	CASE (EXCEPT IT)	
* 10	4-939-803-71	CASE (IT)	
* 11	3-377-136-51	PANEL, BACK (EXCEPT G)	
* 11	3-377-136-61	PANEL, BACK (G)	
12	4-931-169-01	FOOT	
RV301	1-241-891-11	RES, VAR, CARBON 20KX3 (REC LEVEL)	

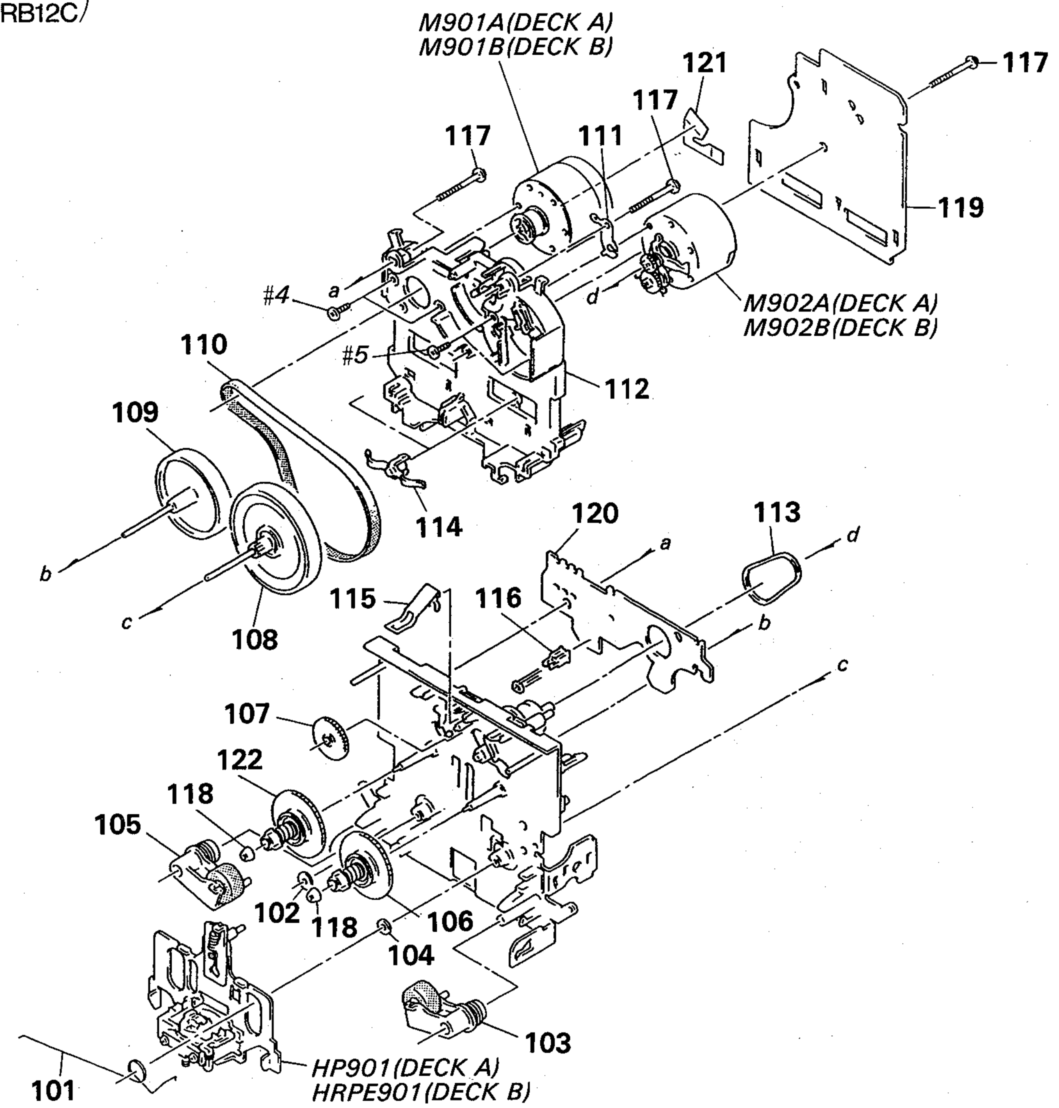
5-2. FRONT PANEL SECTION


69
66
67
#2
63
#2
61
58
56
59
#2
65
TCM-190RA12C
69
#2
TCM-190RB12C
65
#2
#2
51
53
#2
58
55
52
#2
64
66
60
62
68
52
54
57

Ref. No.	Part No.	Description	Remark
51	X-3364-708-1	PANEL ASSY, FRONT (EXCEPT IT)	
51	X-3364-709-1	PANEL ASSY, FRONT (IT)	
52	3-662-752-21	SPRING, TENSION	
* 53	1-643-526-11	CONTROL (A) BOARD	
* 54	1-643-527-11	CONTROL (B) BOARD	
55	3-377-120-01	KNOB (SLIDE) (EXCEPT IT)	
55	3-377-120-11	KNOB (SLIDE) (IT)	
56	X-3340-194-1	HOLDER (L) ASSY, CASSETTE	
57	X-3340-195-1	HOLDER (R) ASSY, CASSETTE	
58	3-308-823-11	SPRING	
59	3-354-959-01	SPRING (LOADING L), TORSION	
60	3-354-960-01	SPRING (LOADING R), TORSION	
61	3-354-955-01	LEVER (EJ SAFTY LEVER L)	
62	3-354-956-01	LEVER (EJ SAFTY LEVER R)	
63	3-354-961-01	SPRING (EJ SAFTY SPRING L)	
64	3-354-962-01	SPRING (EJ SAFTY SPRING R)	
65	3-354-963-01	DAMPER	
66	3-354-957-01	JOINT (LOCK LEVER)	
* 67	3-363-638-01	LEVER (LOCK LEVER L)	
* 68	3-363-639-01	LEVER (LOCK LEVER R)	
69	1-690-906-11	WIRE (FLAT TYPE) (9 CORE)	

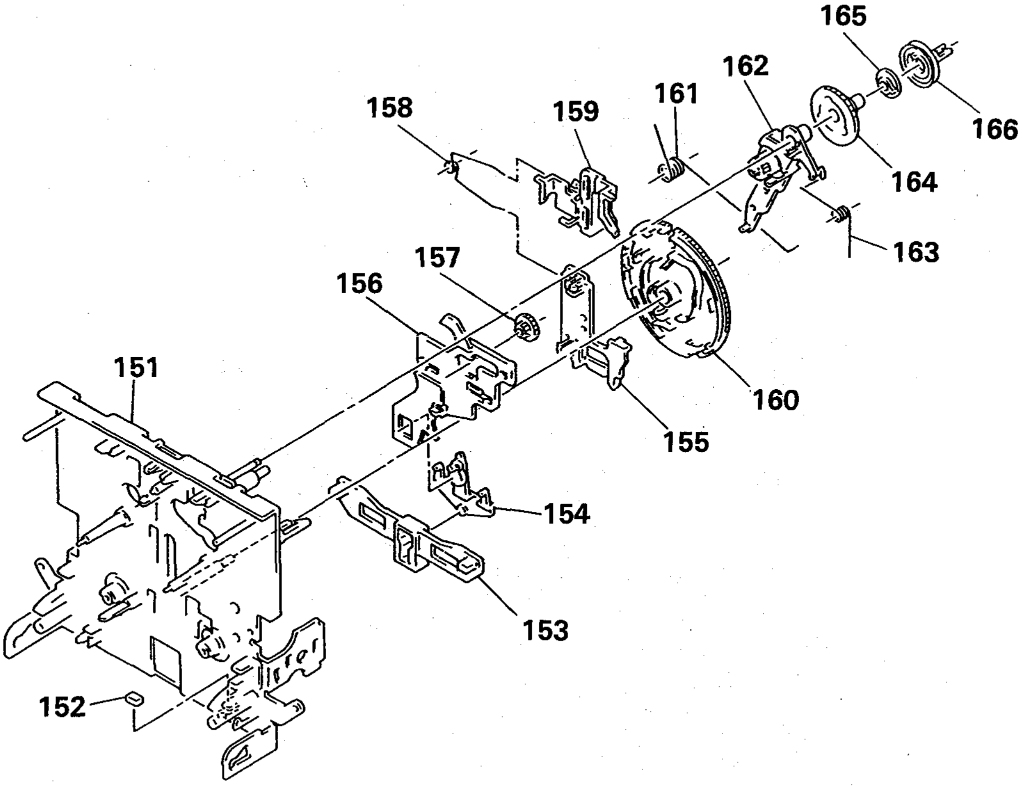
5-3. MECHANISM SECTION-1

(TCM-190RA12C
TCM-190RB12C)


M901A(DECK A)
M901B(DECK B)
121
117
117
111
117
119
#4
a
d
M902A(DECK A)
M902B(DECK B)
110
#5
112
109
114
120
113
a
d
b
115
116
b
c
108
c
107
122
118
105
102
118
106
104
103
101
HP901(DECK A)
HRPE901(DECK B)

Ref. No.	Part No.	Description	Remark
101	3-359-455-01	SPRING, TORSION	
102	3-356-714-01	WASHER	
103	X-3359-408-1	LEVER (PINCH LEVER FWD) ASSY	
104	3-356-713-01	WASHER	
105	X-3359-409-1	LEVER (PINCH LEVER REV) ASSY	
106	X-3359-404-1	TABLE ASSY, REEL	
107	3-359-424-01	GEAR (REV GEAR)	
108	X-3364-554-1	FLYWHEEL (FWD) ASSY	
109	X-3359-410-1	FLYWHEEL (REV) ASSY	
110	3-359-417-01	BELT (FLAT), CAPSTAN	
111	3-359-450-01	PLATE, GROUND	
* 112	3-359-436-01	BASE (THRUST RETAINER), FITTING	
113	3-359-466-01	BELT (FR), SQUARE	
114	3-575-321-00	RETAINER, THRUST, CAPSTAN	
115	3-359-430-01	SPRING (CASSETTE RETAINER), LEAF	
116	3-343-419-01	HOLDER (S SENSER A)	
117	3-359-414-01	SCREW (+PTPWH 2X23)	
118	3-362-308-01	CAP (REEL)	
* 119	A-2006-399-A	MD-A BOARD, COMPLETE (DECK A)	
* 119	A-2006-401-A	MD-HX BOARD, COMPLETE (DECK B)	
* 120	1-634-841-14	SW-A BOARD (DECK A)	
* 120	1-634-841-14	SW-B BOARD (DECK B)	
121	1-638-983-11	MOTOR FLEXIBLE BOARD	
122	X-3362-078-1	TABLE ASSY (B), REEL	
M901A	X-3359-417-1	MOTOR ASSY (CAPSTAN) (DECK A)	
M901B	X-3359-417-1	MOTOR ASSY (CAPSTAN) (DECK B)	
M902A	X-3363-501-1	MOTOR ASSY (REEL) (DECK A)	
M902B	X-3363-501-1	MOTOR ASSY (REEL) (DECK B)	
HP901	A-2003-837-A	BASE ASSY, HEAD (PB) (DECK A)	
HRPE901	A-2003-838-A	BASE ASSY, HEAD (PB/REC/ERASE)	(DECK B)

5-4. MECHANISM SECTION-2
(TCM-190RA12C)
(TCM-190RB12C)



Ref. No.	Part No.	Description	Remark
151	X-3359-415-1	CHASSIS ASSY, MECHANICSL	
152	3-359-469-01	SPACER	
* 153	3-359-425-01	SLIDER (REVERSE SLIDER)	
154	3-359-426-01	LEVER (REVERSE LEVER)	
* 155	3-359-427-01	SLIDER (LEVERSE SLIDER)	
* 156	3-359-415-01	SLIDER (TRIGGER SLIDER)	
157	3-359-448-01	GEAR (TRIGGER)	
158	3-359-454-01	SPRING, TORSION	

Ref. No.	Part No.	Description	Remark
159	3-359-429-01	SLIDER (BRAKE PLATE)	
160	3-359-420-01	GEAR (CAM GEAR)	
161	3-359-456-01	SPRING(TRIGGER SPRING), TORSION	
162	X-3359-405-1	LEVER (FR ARM) ASSY	
163	3-359-453-01	SPRING (FR ARM), TORSION	
164	3-359-419-01	GEAR (FR GEAR)	
165	3-359-421-01	CLUTCH (REEL DISK)	
166	3-359-418-01	PULLEY (FR PULLEY)	

SECTION 6
ELECTRICAL PARTS LIST

CONTROL (A) COTROL (B) MAIN

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH
- G:Germany

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description	Remark
*	1-643-526-11	CONTROL (A) BOARD *****************	
		< CONNECTOR >	
*CN902	1-564-499-11	PIN, CONNECTOR 6P	
		< RESISTOR >	
R908	1-249-424-11	CARBON 3.9K 5% 1/4W	
R913	1-249-417-11	CARBON 1K 5% 1/4W	
R918	1-249-415-11	CARBON 680 5% 1/4W	
R919	1-249-417-11	CARBON 1K 5% 1/4W	
R920	1-249-407-11	CARBON 150 5% 1/4W	
R921	1-249-409-11	CARBON 220 5% 1/4W	
		< SWITCH >	
S908	1-572-378-11	SWITCH, SLIDE (DIRECTION MODE)	
S913	1-572-378-11	SWITCH, SLIDE (DOLBY NR)	
S919	1-554-303-21	SWITCH, TACTILE (AMS REW)	
S920	1-554-303-21	SWITCH, TACTILE (AMS FF)	
S921	1-554-303-21	SWITCH, TACTILE (STOP)	
S922	1-554-303-21	SWITCH, TACTILE (FWD)	
S923	1-554-303-21	SWITCH, TACTILE (REV)	
**			
*	1-643-527-11	CONTROL (B) BOARD *****************	
		< CONNECTOR >	
*CN903	1-564-500-11	PIN, CONNECTOR 7P	
		< DIODE >	
D905	8-719-302-23	LED SEL2213C-C (SAF)	
		< RESISTOR >	
R903	1-249-411-11	CARBON 330 5% 1/4W	
R914	1-249-407-11	CARBON 150 5% 1/4W	
R915	1-249-409-11	CARBON 220 5% 1/4W	
R916	1-249-411-11	CARBON 330 5% 1/4W	
R917	1-249-413-11	CARBON 470 5% 1/4W	
R922	1-249-419-11	CARBON 1.5K 5% 1/4W	
R923	1-249-417-11	CARBON 1K 5% 1/4W	
R924	1-249-420-11	CARBON 1.8K 5% 1/4W	
		< SWITCH >	
S903	1-554-303-21	SWITCH, TACTILE (SAF)	
S904	1-554-303-21	SWITCH, TACTILE (FADER)	
S914	1-554-303-21	SWITCH, TACTILE (STOP)	
S915	1-554-303-21	SWITCH, TACTILE (FWD)	
S916	1-554-303-21	SWITCH, TACTILE (REV)	
S917	1-554-303-21	SWITCH, TACTILE (PAUSE)	
S918	1-554-303-21	SWITCH, TACTILE (REC MUTE)	
S924	1-554-303-21	SWITCH, TACTILE (AMS REW)	
S925	1-554-303-21	SWITCH, TACTILE (AMS FF)	
S926	1-554-303-21	SWITCH, TACTILE (REC)	
**			
*	A-2006-796-A	MAIN BOARD, COMPLETE (EXCEPT G)	
*	A-2006-837-A	MAIN BOARD, COMPLETE (G) ********************	
*	4-942-204-01	PLATE, GROUND	
	7-685-645-79	SCREW +BVTP 3X6 TYPE2 N-S	
		< CAPACITOR >	
C101	1-136-157-00	FILM 0.022uF 5% 50V	
C102	1-126-161-11	ELECT 2.2uF 20% 50V	
C103	1-126-059-11	ELECT 10uF 20% 50V	
C104	1-126-301-11	ELECT 1uF 20% 50V	

MAIN

Ref. No.	Part No.	Description			Remark
C105	1-162-294-31	CERAMIC	0.001uF	10%	50V
C106	1-130-475-00	MYLAR	0.0022uF	5%	50V
C107	1-130-475-00	MYLAR	0.0022uF	5%	50V
C108	1-136-174-00	FILM	0.56uF	5%	50V
C109	1-136-171-00	FILM	0.33uF	5%	50V
C110	1-126-059-11	ELECT	10uF	20%	50V
C111	1-126-059-11	ELECT	10uF	20%	50V
C112	1-126-162-11	ELECT	3.3uF	20%	50V
C113	1-126-300-11	ELECT	0.47uF	20%	50V
C114	1-126-059-11	ELECT	10uF	20%	50V
C201	1-136-157-00	FILM	0.022uF	5%	50V
C202	1-126-161-11	ELECT	2.2uF	20%	50V
C203	1-126-059-11	ELECT	10uF	20%	50V
C204	1-126-301-11	ELECT	1uF	20%	50V
C205	1-162-294-31	CERAMIC	0.001uF	10%	50V
C206	1-130-475-00	MYLAR	0.0022uF	5%	50V
C207	1-130-475-00	MYLAR	0.0022uF	5%	50V
C208	1-136-174-00	FILM	0.56uF	5%	50V
C209	1-136-171-00	FILM	0.33uF	5%	50V
C210	1-126-059-11	ELECT	10uF	20%	50V
C211	1-126-059-11	ELECT	10uF	20%	50V
C212	1-126-162-11	ELECT	3.3uF	20%	50V
C213	1-126-300-11	ELECT	0.47uF	20%	50V
C214	1-126-059-11	ELECT	10uF	20%	50V
C401	1-164-159-11	CERAMIC	0.1uF		50V
C402	1-101-005-00	CERAMIC	22000PF		50V
C403	1-101-005-00	CERAMIC	22000PF		50V
C404	1-101-005-00	CERAMIC	22000PF		50V
C420	1-164-159-11	CERAMIC	0.1uF		50V
C430	1-164-159-11	CERAMIC	0.1uF		50V (G)
C431	1-162-286-31	CERAMIC	220PF	10%	50V (G)
C432	1-162-286-31	CERAMIC	220PF	10%	50V (G)
C433	1-164-159-11	CERAMIC	0.1uF		50V (G)
C434	1-164-159-11	CERAMIC	0.1uF		50V (G)
C435	1-164-159-11	CERAMIC	0.1uF		50V (G)
C436	1-164-159-11	CERAMIC	0.1uF		50V (G)
C501	1-124-994-11	ELECT	100uF	20%	10V
C502	1-124-994-11	ELECT	100uF	20%	10V
C503	1-126-059-11	ELECT	10uF	20%	50V
C504	1-126-161-11	ELECT	2.2uF	20%	50V
C506	1-161-494-00	CERAMIC	0.022uF		25V
C508	1-126-163-11	ELECT	4.7uF	20%	50V
C510	1-126-161-11	ELECT	2.2uF	20%	50V
C511	1-126-161-11	ELECT	2.2uF	20%	50V
C512	1-124-910-11	ELECT	47uF	20%	50V
C513	1-126-161-11	ELECT	2.2uF	20%	50V
C514	1-124-910-11	ELECT	47uF	20%	50V
C515	1-124-478-11	ELECT	100uF	20%	25V
C516	1-124-478-11	ELECT	100uF	20%	25V

Ref. No.	Part No.	Description			Remark
C701	1-126-937-11	ELECT	4700uF	20%	16V
C702	1-126-937-11	ELECT	4700uF	20%	16V
C703	1-126-101-11	ELECT	100uF	20%	16V
C704	1-124-473-11	ELECT	1000uF	20%	10V
C705	1-124-473-11	ELECT	1000uF	20%	10V
C706	1-126-161-11	ELECT	2.2uF	20%	50V
C707	1-124-472-11	ELECT	470uF	20%	10V
C708	1-126-301-11	ELECT	1uF	20%	50V
C709	1-126-301-11	ELECT	1uF	20%	50V
C710	1-126-301-11	ELECT	1uF	20%	50V
C711	1-101-005-00	CERAMIC	22000PF		50V
C712	1-126-867-11	ELECT	33uF	20%	50V
C720	1-162-215-31	CERAMIC	47PF	5%	50V
C801	1-126-162-11	ELECT	3.3uF	20%	50V
C802	1-162-288-31	CERAMIC	330PF	10%	50V
C803	1-136-165-00	FILM	0.1uF	5%	50V
C804	1-162-288-31	CERAMIC	330PF	10%	50V
C805	1-136-165-00	FILM	0.1uF	5%	50V
C806	1-124-994-11	ELECT	100uF	20%	10V
C807	1-124-994-11	ELECT	100uF	20%	10V
C808	1-101-005-00	CERAMIC	22000PF		50V
C809	1-124-994-11	ELECT	100uF	20%	10V
C810	1-136-165-00	FILM	0.1uF	5%	50V
C811	1-161-379-00	CERAMIC	0.01uF	20%	25V (EXCEPT G)
C811	1-164-159-11	CERAMIC	0.1uF		50V (G)
C813	1-126-161-11	ELECT	2.2uF	20%	50V
		< CONNECTOR >			
*CN501	1-580-784-11	CONNECTOR, BOARD TO BOARD			
*CN502	1-580-784-11	CONNECTOR, BOARD TO BOARD			
*CN503	1-580-784-11	CONNECTOR, BOARD TO BOARD			
*CN504	1-566-858-41	SOCKET, CONNECTOR 11P			
*CN505	1-568-828-11	SOCKET, CONNECTOR 9P			
*CN506	1-568-828-11	SOCKET, CONNECTOR 9P			
*CN507	1-568-832-11	SOCKET, CONNECTOR 13P			
*CN701	1-566-859-11	SOCKET, CONNECTOR 15P			
*CN801	1-568-836-11	SOCKET, CONNECTOR 17P			
*CN802	1-564-340-61	PIN, CONNECTOR 6P			
*CN803	1-564-341-11	PIN, CONNECTOR 7P			
		< DIODE >			
D101	8-719-987-63	DIODE	1N4148M		
D102	8-719-987-63	DIODE	1N4148M		
D201	8-719-987-63	DIODE	1N4148M		
D202	8-719-987-63	DIODE	1N4148M		
D401	8-719-933-54	DIODE	HZS9A2L		
D402	8-719-933-54	DIODE	HZS9A2L		

MAIN

Ref. No.	Part No.	Description	Remark
D501	8-719-987-63	DIODE 1N4148M	
D503	8-719-987-63	DIODE 1N4148M	
D504	8-719-987-63	DIODE 1N4148M	
D701	8-719-200-77	DIODE 10E2N	
D702	8-719-200-77	DIODE 10E2N	
D703	8-719-200-77	DIODE 10E2N	
D704	8-719-200-77	DIODE 10E2N	
D705	8-719-200-77	DIODE 10E2N	
D706	8-719-200-77	DIODE 10E2N	
D707	8-719-933-33	DIODE HZS6A1L	
D708	8-719-933-33	DIODE HZS6A1L	
D709	8-719-000-78	DIODE UZL-7L2	
D801	8-719-933-54	DIODE HZS9A2L	
D802	8-719-987-63	DIODE 1N4148M	
D803	8-719-987-63	DIODE 1N4148M	
D804	8-719-987-63	DIODE 1N4148M	
D807	8-719-987-63	DIODE 1N4148M	
D808	8-719-987-63	DIODE 1N4148M	
D809	8-719-987-63	DIODE 1N4148M	

< IC >

Ref. No.	Part No.	Description	Remark
IC501	8-759-140-53	IC uPD4053BC	
IC502	8-759-634-51	IC M5218AP	
IC503	8-752-059-55	IC CXA1331S	
IC504	8-752-055-61	IC CXA1578P	
IC505	8-759-945-58	IC RC4558P	
IC506	8-759-000-49	IC MC14066BCP	
IC507	8-759-945-58	IC RC4558P	
IC701	8-759-945-58	IC RC4558P	
IC801	8-759-635-94	IC M50925SP-482SP	
IC802	8-759-207-05	IC TA7272P	
IC803	8-759-000-48	IC MC14052BCP	
IC804	8-759-240-71	IC TC4071BP	
IC805	8-759-067-45	IC M50944-180SP	

< COIL >

Ref. No.	Part No.	Description	Remark
L501	1-408-080-00	INDUCTOR 100uH	

< FILTER >

Ref. No.	Part No.	Description	Remark
LPF101	1-236-087-11	FILTER, LOW PASS	
LPF201	1-236-087-11	FILTER, LOW PASS	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remark
Q101	8-729-900-74	TRANSISTOR DTC143TS	
Q102	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q201	8-729-900-74	TRANSISTOR DTC143TS	
Q202	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q501	8-729-900-61	TRANSISTOR DTA114ES	
Q502	8-729-900-61	TRANSISTOR DTA114ES	
Q503	8-729-900-80	TRANSISTOR DTC114ES	
Q504	8-729-900-80	TRANSISTOR DTC114ES	
Q505	8-729-900-61	TRANSISTOR DTA114ES	
Q506	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q507	8-729-900-89	TRANSISTOR DTC144ES	
Q508	8-729-900-80	TRANSISTOR DTC114ES	
Q509	8-729-900-74	TRANSISTOR DTC143TS	
Q510	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q511	8-729-900-80	TRANSISTOR DTC114ES	
Q512	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q513	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q514	8-729-900-74	TRANSISTOR DTC143TS	
Q515	8-729-900-61	TRANSISTOR DTA114ES	
Q516	8-729-900-80	TRANSISTOR DTC114ES	
Q517	8-729-900-61	TRANSISTOR DTA114ES	
Q601	8-729-900-65	TRANSISTOR DTA144ES	
Q701	8-729-141-83	TRANSISTOR 2SB1094-LK	
Q702	8-729-209-15	TRANSISTOR 2SD2012	
Q703	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q704	8-729-209-15	TRANSISTOR 2SD2012	
Q705	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q706	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q801	8-729-900-80	TRANSISTOR DTC114ES	
Q802	8-729-900-61	TRANSISTOR DTA114ES	
Q803	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q804	8-729-900-89	TRANSISTOR DTC144ES	
Q805	8-729-900-65	TRANSISTOR DTA144ES	
Q806	8-729-900-61	TRANSISTOR DTA114ES	
Q810	8-729-900-61	TRANSISTOR DTA114ES	
Q813	8-729-900-61	TRANSISTOR DTA114ES	
Q814	8-729-900-89	TRANSISTOR DTC144ES	
Q815	8-729-801-84	TRANSISTOR 2SB1013-4	
Q816	8-729-801-84	TRANSISTOR 2SB1013-4	

< RESISTOR >

Ref. No.	Part No.	Description	Remark
R101	1-249-421-11	CARBON 2.2K 5% 1/4W	
R102	1-249-423-11	CARBON 3.3K 5% 1/4W	
R103	1-247-887-00	CARBON 220K 5% 1/4W	
R106	1-249-421-11	CARBON 2.2K 5% 1/4W	
R107	1-249-437-11	CARBON 47K 5% 1/4W	
R109	1-249-423-11	CARBON 3.3K 5% 1/4W	
R110	1-249-428-11	CARBON 8.2K 5% 1/4W	
R112	1-247-864-11	CARBON 24K 5% 1/4W	
R113	1-249-414-11	CARBON 560 5% 1/4W	
R115	1-249-421-11	CARBON 2.2K 5% 1/4W	
R117	1-249-431-11	CARBON 15K 5% 1/4W	
R118	1-249-421-11	CARBON 2.2K 5% 1/4W	
R119	1-249-429-11	CARBON 10K 5% 1/4W	

MAIN

Ref. No.	Part No.	Description			Remark
R120	1-249-421-11	CARBON	2.2K	5%	1/4W
R121	1-249-417-11	CARBON	1K	5%	1/4W
R122	1-249-432-11	CARBON	18K	5%	1/4W
R123	1-249-432-11	CARBON	18K	5%	1/4W
R124	1-249-410-11	CARBON	270	5%	1/4W
R126	1-249-417-11	CARBON	1K	5%	1/4W
R127	1-249-429-11	CARBON	10K	5%	1/4W
R201	1-249-421-11	CARBON	2.2K	5%	1/4W
R202	1-249-423-11	CARBON	3.3K	5%	1/4W
R203	1-247-887-00	CARBON	220K	5%	1/4W
R206	1-249-421-11	CARBON	2.2K	5%	1/4W
R207	1-249-437-11	CARBON	47K	5%	1/4W
R209	1-249-423-11	CARBON	3.3K	5%	1/4W
R210	1-249-428-11	CARBON	8.2K	5%	1/4W
R212	1-247-864-11	CARBON	24K	5%	1/4W
R213	1-249-414-11	CARBON	560	5%	1/4W
R215	1-249-421-11	CARBON	2.2K	5%	1/4W
R217	1-249-431-11	CARBON	15K	5%	1/4W
R218	1-249-421-11	CARBON	2.2K	5%	1/4W
R219	1-249-429-11	CARBON	10K	5%	1/4W
R220	1-249-421-11	CARBON	2.2K	5%	1/4W
R221	1-249-417-11	CARBON	1K	5%	1/4W
R222	1-249-432-11	CARBON	18K	5%	1/4W
R223	1-249-432-11	CARBON	18K	5%	1/4W
R224	1-249-410-11	CARBON	270	5%	1/4W
R226	1-249-417-11	CARBON	1K	5%	1/4W
R227	1-249-429-11	CARBON	10K	5%	1/4W
R501	1-249-405-11	CARBON	100	5%	1/4W
R502	1-249-405-11	CARBON	100	5%	1/4W
R503	1-249-434-11	CARBON	27K	5%	1/4W
R504	1-249-429-11	CARBON	10K	5%	1/4W
R505	1-249-413-11	CARBON	470	5%	1/4W
R506	1-247-864-11	CARBON	24K	5%	1/4W
R507	1-247-887-00	CARBON	220K	5%	1/4W
R510	1-249-429-11	CARBON	10K	5%	1/4W
R511	1-249-429-11	CARBON	10K	5%	1/4W
R512	1-247-887-00	CARBON	220K	5%	1/4W
R513	1-249-429-11	CARBON	10K	5%	1/4W
R514	1-249-441-11	CARBON	100K	5%	1/4W
R515	1-249-428-11	CARBON	8.2K	5%	1/4W
R516	1-249-423-11	CARBON	3.3K	5%	1/4W
R517	1-249-441-11	CARBON	100K	5%	1/4W
R518	1-249-417-11	CARBON	1K	5%	1/4W
R519	1-249-441-11	CARBON	100K	5%	1/4W
R520	1-249-429-11	CARBON	10K	5%	1/4W
R521	1-249-441-11	CARBON	100K	5%	1/4W
R522	1-249-433-11	CARBON	22K	5%	1/4W
R524	1-249-417-11	CARBON	1K	5%	1/4W
R526	1-249-429-11	CARBON	10K	5%	1/4W
R527	1-249-417-11	CARBON	1K	5%	1/4W
R528	1-249-437-11	CARBON	47K	5%	1/4W
R529	1-249-425-11	CARBON	4.7K	5%	1/4W
R530	1-249-407-11	CARBON	150	5%	1/4W
R531	1-249-431-11	CARBON	15K	5%	1/4W
R532	1-247-842-11	CARBON	3K	5%	1/4W
R533	1-249-438-11	CARBON	56K	5%	1/4W
R534	1-247-882-11	CARBON	130K	5%	1/4W
R535	1-249-440-11	CARBON	82K	5%	1/4W
R536	1-249-405-11	CARBON	100	5%	1/4W
R537	1-249-433-11	CARBON	22K	5%	1/4W
R538	1-249-425-11	CARBON	4.7K	5%	1/4W
R539	1-249-414-11	CARBON	560	5%	1/4W
R540	1-249-433-11	CARBON	22K	5%	1/4W
R541	1-249-407-11	CARBON	150	5%	1/4W
R542	1-249-425-11	CARBON	4.7K	5%	1/4W
R543	1-249-433-11	CARBON	22K	5%	1/4W
R601	1-249-427-11	CARBON	6.8K	5%	1/4W
R602	1-249-425-11	CARBON	4.7K	5%	1/4W
R603	1-249-417-11	CARBON	1K	5%	1/4W
R604	1-247-862-11	CARBON	20K	5%	1/4W
R605	1-249-429-11	CARBON	10K	5%	1/4W
R701	1-249-413-11	CARBON	470	5%	1/4W
R702	1-249-413-11	CARBON	470	5%	1/4W
R703	1-249-422-11	CARBON	2.7K	5%	1/4W
R704	1-247-858-11	CARBON	13K	5%	1/4W
R705	1-249-429-11	CARBON	10K	5%	1/4W
R706	1-249-417-11	CARBON	1K	5%	1/4W
R707	1-247-850-11	CARBON	6.2K	5%	1/4W
R708	1-249-422-11	CARBON	2.7K	5%	1/4W
R709	1-249-429-11	CARBON	10K	5%	1/4W
R710	1-249-429-11	CARBON	10K	5%	1/4W
R711	1-249-417-11	CARBON	1K	5%	1/4W
R712	1-249-432-11	CARBON	18K	5%	1/4W
R713	1-249-423-11	CARBON	3.3K	5%	1/4W
R714	1-249-433-11	CARBON	22K	5%	1/4W
R715	1-249-435-11	CARBON	33K	5%	1/4W
R801	1-249-429-11	CARBON	10K	5%	1/4W
R802	1-247-903-00	CARBON	1M	5%	1/4W
R803	1-249-434-11	CARBON	27K	5%	1/4W
R804	1-249-434-11	CARBON	27K	5%	1/4W
R805	1-249-435-11	CARBON	33K	5%	1/4W
R806	1-249-435-11	CARBON	33K	5%	1/4W
R807	1-249-434-11	CARBON	27K	5%	1/4W
R808	1-247-895-00	CARBON	470K	5%	1/4W
R809	1-247-895-00	CARBON	470K	5%	1/4W
R810	1-249-434-11	CARBON	27K	5%	1/4W
R811	1-249-435-11	CARBON	33K	5%	1/4W
R812	1-249-435-11	CARBON	33K	5%	1/4W

MD-A **MD-HX**

Ref. No.	Part No.	Description			Remark
R23	1-216-100-00	METAL GLAZE	130K	5%	1/10W
R24	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R31	1-216-033-00	METAL CHIP	220	5%	1/10W
R32	1-216-033-00	METAL CHIP	220	5%	1/10W
R71	1-216-082-00	METAL GLAZE	24K	5%	1/10W
R72	1-216-081-00	METAL CHIP	22K	5%	1/10W
R73	1-216-089-00	METAL CHIP	47K	5%	1/10W
R74	1-216-089-00	METAL CHIP	47K	5%	1/10W

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description
RV11	1-241-627-11	RES, ADJ, CARBON 1K
RV21	1-241-627-11	RES, ADJ, CARBON 1K
RV71	1-241-630-11	RES, ADJ, CARBON 10K
RV72	1-241-630-11	RES, ADJ, CARBON 10K

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* A-2006-401-A MD-HX BOARD, COMPLETE

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< CAPACITOR >

Ref. No.	Part No.	Description			Remark
C11	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C12	1-136-157-00	FILM	0.022uF	5%	50V
C13	1-124-234-00	ELECT	22uF	20%	16V
C18	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C21	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C22	1-136-157-00	FILM	0.022uF	5%	50V
C23	1-124-234-00	ELECT	22uF	20%	16V
C28	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C31	1-124-234-00	ELECT	22uF	20%	16V
C32	1-124-234-00	ELECT	22uF	20%	16V
C33	1-124-234-00	ELECT	22uF	20%	16V
C51	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C52	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C53	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C54	1-136-601-11	FILM	0.01uF	5%	630V
C56	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C57	1-164-346-11	CERAMIC CHIP	1uF		16V
C71	1-164-346-11	CERAMIC CHIP	1uF		16V
C80	1-124-234-00	ELECT	22uF	20%	16V
C81	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C82	1-136-157-00	FILM	0.022uF	5%	50V
C83	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C84	1-136-478-11	FILM	470PF	5%	630V
C85	1-136-433-11	FILM	100PF	5%	630V
C86	1-163-143-00	CERAMIC CHIP	0.0012uF	5%	50V
C87	1-136-273-91	FILM	75PF	5%	630V
C88	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C89	1-124-234-00	ELECT	22uF	20%	16V
C90	1-107-045-00	MICA	3.9PF		500V
C91	1-164-232-11	CERAMIC CHIP	0.01uF		50V

Ref. No.	Part No.	Description			Remark
C92	1-136-157-00	FILM	0.022uF	5%	50V
C93	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C94	1-136-478-11	FILM	470PF	5%	630V
C95	1-136-433-11	FILM	100PF	5%	630V
C96	1-163-143-00	CERAMIC CHIP	0.0012uF	5%	50V
C97	1-136-273-91	FILM	75PF	5%	630V
C98	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C99	1-164-005-11	CERAMIC CHIP	0.47uF		25V

< CONNECTOR >

Ref. No.	Part No.	Description
*CNP31	1-580-782-11	CONNECTOR, BOARD TO BOARD
*CNP32	1-580-781-11	PIN, CONNECTOR (PC BOARD) 7P
*CNP33	1-580-782-11	CONNECTOR, BOARD TO BOARD
*CNP71	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P
*CNP72	1-580-411-11	SOCKET, CONNECTOR 4P

< DIODE >

Ref. No.	Part No.	Description	
D31	8-719-016-74	DIODE	1SS352

< IC >

Ref. No.	Part No.	Description	
IC31	8-759-106-02	IC	uPC4570G2
IC81	8-759-106-56	IC	uPC1297CA

< COIL >

Ref. No.	Part No.	Description	
L81	1-410-780-11	INDUCTOR	27mH
L91	1-410-780-11	INDUCTOR	27mH

< TRANSISTOR >

Ref. No.	Part No.	Description	
Q51	8-729-808-01	TRANSISTOR	2SD1622-S
Q52	8-729-808-01	TRANSISTOR	2SD1622-S
Q53	8-729-808-01	TRANSISTOR	2SD1622-S
Q71	8-729-216-22	TRANSISTOR	2SA1162

< RESISTOR >

Ref. No.	Part No.	Description			Remark
R11	1-216-099-00	METAL CHIP	120K	5%	1/10W
R12	1-216-025-00	METAL CHIP	100	5%	1/10W
R13	1-216-100-00	METAL GLAZE	130K	5%	1/10W
R14	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R21	1-216-099-00	METAL CHIP	120K	5%	1/10W
R22	1-216-025-00	METAL CHIP	100	5%	1/10W
R22	1-216-025-00	METAL CHIP	100	5%	1/10W
R23	1-216-100-00	METAL GLAZE	130K	5%	1/10W
R24	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R31	1-216-033-00	METAL CHIP	220	5%	1/10W
R32	1-216-033-00	METAL CHIP	220	5%	1/10W
R51	1-216-097-00	METAL CHIP	100K	5%	1/10W
R52	1-216-097-00	METAL CHIP	100K	5%	1/10W
R53	1-216-073-00	METAL CHIP	10K	5%	1/10W
R54	1-216-309-00	METAL CHIP	5.6	5%	1/10W

Ref. No.	Part No.	Description			Remark
R813	1-249-421-11	CARBON	2.2K	5%	1/4W
R814	1-249-421-11	CARBON	2.2K	5%	1/4W
R815	1-249-421-11	CARBON	2.2K	5%	1/4W
R816	1-249-421-11	CARBON	2.2K	5%	1/4W
R817	1-249-393-11	CARBON	10	5%	1/4W
R818	1-249-435-11	CARBON	33K	5%	1/4W
R821	1-247-903-00	CARBON	1M	5%	1/4W
R822	1-249-435-11	CARBON	33K	5%	1/4W
R823	1-249-425-11	CARBON	4.7K	5%	1/4W
R824	1-249-435-11	CARBON	33K	5%	1/4W
R825	1-249-429-11	CARBON	10K	5%	1/4W
R826	1-249-420-11	CARBON	1.8K	5%	1/4W
R827	1-249-435-11	CARBON	33K	5%	1/4W
R828	1-249-433-11	CARBON	22K	5%	1/4W
R829	1-249-433-11	CARBON	22K	5%	1/4W
R830	1-249-433-11	CARBON	22K	5%	1/4W
R831	1-249-421-11	CARBON	2.2K	5%	1/4W
R834	1-249-425-11	CARBON	4.7K	5%	1/4W
R835	1-249-435-11	CARBON	33K	5%	1/4W
R836	1-249-435-11	CARBON	33K	5%	1/4W
R837	1-249-431-11	CARBON	15K	5%	1/4W
R838	1-249-422-11	CARBON	2.7K	5%	1/4W
R839	1-249-405-11	CARBON	100	5%	1/4W
R842	1-249-425-11	CARBON	4.7K	5%	1/4W
R843	1-247-862-11	CARBON	20K	5%	1/4W
R844	1-247-862-11	CARBON	20K	5%	1/4W
R845	1-249-425-11	CARBON	4.7K	5%	1/4W
R846	1-249-415-11	CARBON	680	5%	1/4W
R847	1-249-429-11	CARBON	10K	5%	1/4W
R848	1-249-415-11	CARBON	680	5%	1/4W
R849	1-249-429-11	CARBON	10K	5%	1/4W
R851	1-249-437-11	CARBON	47K	5%	1/4W
R852	1-247-866-11	CARBON	30K	5%	1/4W
R853	1-247-866-11	CARBON	30K	5%	1/4W
R854	1-249-437-11	CARBON	47K	5%	1/4W
R855	1-247-872-11	CARBON	51K	5%	1/4W
R856	1-247-872-11	CARBON	51K	5%	1/4W
R857	1-247-872-11	CARBON	51K	5%	1/4W
R858	1-247-872-11	CARBON	51K	5%	1/4W
R859	1-249-405-11	CARBON	100	5%	1/4W
R860	1-249-405-11	CARBON	100	5%	1/4W
R870	1-249-451-11	CARBON	2.2	5%	1/4W
R871	1-249-451-11	CARBON	2.2	5%	1/4W

< VARIABLE RESISTOR >

RV101	1-241-630-11	RES, ADJ, CARBON	10K
RV201	1-241-630-11	RES, ADJ, CARBON	10K

< VIBRATOR >

Ref. No.	Part No.	Description	Remark
X801	1-577-358-21	VIBRATOR, CERAMIC 4MHz	
X802	1-577-358-21	VIBRATOR, CERAMIC 4MHz	

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* A-2006-399-A MD-A BOARD, COMPLETE

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< CAPACITOR >

C11	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C12	1-136-157-00	FILM	0.022uF	5%	50V
C13	1-124-234-00	ELECT	22uF	20%	16V
C18	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C21	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C22	1-136-157-00	FILM	0.022uF	5%	50V
C23	1-124-234-00	ELECT	22uF	20%	16V
C28	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C31	1-124-234-00	ELECT	22uF	20%	16V
C32	1-124-234-00	ELECT	22uF	20%	16V
C72	1-124-499-11	ELECT, NONPOLAR R	1uF	20%	50V

< JACK >

*CNJ31	1-580-782-11	CONNECTOR, BOARD TO BOARD
*CNJ72	1-580-411-11	SOCKET, CONNECTOR 4P

< CONNECTOR >

*CNP32	1-580-772-11	PIN, CONNECTOR (PC BOARD) 4P
*CNP71	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P

< IC >

IC31	8-759-106-02	IC	uPC4570G2

< JUMPER RESISTOR >

JW1	1-216-295-00	METAL CHIP	0	5%	1/10W
JW51	1-216-296-00	METAL CHIP	0	5%	1/8W
JW52	1-216-296-00	METAL CHIP	0	5%	1/8W
JW53	1-216-296-00	METAL CHIP	0	5%	1/8W
JW54	1-216-296-00	METAL CHIP	0	5%	1/8W

< TRANSISTOR >

Q71	8-729-602-36	TRANSISTOR	2SA1602

< RESISTOR >

R11	1-216-099-00	METAL CHIP	120K	5%	1/10W
R12	1-216-025-00	METAL CHIP	100	5%	1/10W
R13	1-216-100-00	METAL GLAZE	130K	5%	1/10W
R14	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R21	1-216-099-00	METAL CHIP	120K	5%	1/10W

Ref. No.	Part No.	Description	Remark
R55	1-216-309-00	METAL CHIP 5.6 5%	1/10W
R57	1-216-298-00	METAL CHIP 2.2 5%	1/10W
R71	1-216-082-00	METAL GLAZE 24K 5%	1/10W
R72	1-216-081-00	METAL CHIP 22K 5%	1/10W
R73	1-216-089-00	METAL CHIP 47K 5%	1/10W
R74	1-216-089-00	METAL CHIP 47K 5%	1/10W
R81	1-216-073-00	METAL CHIP 10K 5%	1/10W
R82	1-216-085-00	METAL CHIP 33K 5%	1/10W
R83	1-216-001-00	METAL CHIP 10 5%	1/10W
R84	1-216-101-00	METAL CHIP 150K 5%	1/10W
R85	1-216-075-00	METAL CHIP 12K 5%	1/10W
R91	1-216-073-00	METAL CHIP 10K 5%	1/10W
R92	1-216-085-00	METAL CHIP 33K 5%	1/10W
R93	1-216-001-00	METAL CHIP 10 5%	1/10W
R94	1-216-101-00	METAL CHIP 150K 5%	1/10W
R95	1-216-075-00	METAL CHIP 12K 5%	1/10W
		< VARIABLE RESISTOR >	
RV11	1-241-627-11	RES, ADJ, CARBON 1K	
RV21	1-241-627-11	RES, ADJ, CARBON 1K	
RV71	1-241-630-11	RES, ADJ, CARBON 10K	
RV72	1-241-630-11	RES, ADJ, CARBON 10K	
RV81	1-241-122-11	RES, ADJ, CARBON 22K	
RV91	1-241-122-11	RES, ADJ, CARBON 22K	
		< RELAY >	
RY31	1-515-726-11	RELAY	
		< TRANSFORMER >	
T51	1-406-417-11	COIL, BIAS OSCILLATION	
T81	1-433-381-11	TRANSFORMER, BIAS OSCILLATOR	
T91	1-433-381-11	TRANSFORMER, BIAS OSCILLATOR	
		< TEST PIN >	
*TP81	1-568-449-11	HOUSING, CONNECTOR(PC BOARD)3P	

****

Ref. No.	Part No.	Description	Remark
*	A-2006-797-A	PANEL BOARD, COMPLETE **********************	
*	3-362-478-21	HOLDER (T), LED	
*	4-921-941-01	CUSHION (FL)	
*	4-933-646-01	HOLDER (TC), FL TUBE	
		< CAPACITOR >	
C406	1-162-292-31	CERAMIC 680PF 10%	50V
C407	1-162-292-31	CERAMIC 680PF 10%	50V
C408	1-162-292-31	CERAMIC 680PF 10%	50V
C901	1-161-379-00	CERAMIC 0.01uF 20%	25V
C902	1-161-379-00	CERAMIC 0.01uF 20%	25V
		< CONNECTOR >	
*CN901	1-568-836-11	SOCKET, CONNECTOR 17P	
		< DIODE >	
D901	8-719-301-38	LED SEL2210S-C	(C FADE)
D902	8-719-301-38	LED SEL2210S-C	(FADE)
D903	8-719-301-38	LED SEL2210S-C	(EDIT)
D904	8-719-301-38	LED SEL2210S-C	(REC LEVEL)
D906	8-719-987-63	DIODE 1N4148M	
		< FILTER >	
FL901	1-519-741-11	INDICATOR TUBE, FLUORESCENT	
		< IC >	
IC901	8-759-321-92	IC HD614022S	
		< TRANSISTOR >	
Q901	8-729-900-61	TRANSISTOR DTA114ES	
		< RESISTOR >	
R401	1-249-405-11	CARBON 100 5%	1/4W
R402	1-249-405-11	CARBON 100 5%	1/4W
R403	1-249-405-11	CARBON 100 5%	1/4W
R901	1-249-407-11	CARBON 150 5%	1/4W
R902	1-249-409-11	CARBON 220 5%	1/4W
R904	1-249-413-11	CARBON 470 5%	1/4W
R905	1-249-415-11	CARBON 680 5%	1/4W
R906	1-249-417-11	CARBON 1K 5%	1/4W
R907	1-249-420-11	CARBON 1.8K 5%	1/4W
R909	1-249-407-11	CARBON 150 5%	1/4W
R910	1-249-409-11	CARBON 220 5%	1/4W
R911	1-249-411-11	CARBON 330 5%	1/4W
R912	1-249-418-11	CARBON 1.2K 5%	1/4W
R927	1-249-411-11	CARBON 330 5%	1/4W
R928	1-249-411-11	CARBON 330 5%	1/4W
R929	1-249-411-11	CARBON 330 5%	1/4W
R930	1-249-411-11	CARBON 330 5%	1/4W
R931	1-247-903-00	CARBON 1M 5%	1/4W
R932	1-249-411-11	CARBON 330 5%	1/4W
		< SWITCH >	
S901	1-554-303-21	SWITCH, TACTILE	(HIGH SPEED)
S902	1-554-303-21	SWITCH, TACTILE	(NORMAL SPEED)
S905	1-554-303-21	SWITCH, TACTILE	(RESET)
S906	1-554-303-21	SWITCH, TACTILE	(MEMORY)
S907	1-554-303-21	SWITCH, TACTILE	(A/B)

PANEL REC VOL SW-A SW-B

Ref. No.	Part No.	Description	Remark
S909	1-554-303-21	SWITCH, TACTILE (C FADE)	
S910	1-554-303-21	SWITCH, TACTILE (FADE)	
S911	1-554-303-21	SWITCH, TACTILE (EDIT)	
S912	1-554-303-21	SWITCH, TACTILE (TIME)	
		< VIBRATOR >	
X901	1-567-775-11	VIBRATOR, CERAMIC 4.19MHz	
**			
*	1-643-528-11	REC VOL BOARD *************	
		< CAPACITOR >	
C814	1-164-159-11	CERAMIC 0.1uF	50V
		< CONNECTOR >	
*CN508	1-568-832-11	SOCKET, CONNECTOR 13P	
		< DIODE >	
D805	8-719-987-63	DIODE 1N4148M	
D806	8-719-987-63	DIODE 1N4148M	
		< IC >	
IC806	8-759-820-62	IC LB1639	
		< TRANSISTOR >	
Q807	8-729-900-65	TRANSISTOR DTA144ES	
Q808	8-729-900-89	TRANSISTOR DTC144ES	
		< RESISTOR >	
R125	1-249-435-11	CARBON 33K 5%	1/4W
R225	1-249-435-11	CARBON 33K 5%	1/4W
R832	1-249-412-11	CARBON 390 5%	1/4W
R833	1-249-411-11	CARBON 330 5%	1/4W
		< VARIABLE RESISTOR >	
RV301	1-241-891-11	RES, VAR, CARBON 20KX3 (REC REVEL)	
**			
*	1-634-841-14	SW-A BOARD **********	
	3-343-419-01	HOLDER (S SENSER A)	
		< CONNECTOR >	
*CNP81	1-568-852-11	SOCKET, CONNECTOR 9P	

Ref. No.	Part No.	Description	Remark
		< IC >	
IC81	8-719-710-03	DIODE NJL5165K-B	
		< RESISTOR >	
R84	1-249-417-11	CARBON 1K 5%	1/4W
R85	1-249-408-11	CARBON 180 5%	1/4W
		< SWITCH >	
S81	1-571-958-11	SWITCH, PUSH (1 KEY) (STOP)	
S82	1-571-281-21	SWITCH, LEAF (70EQ)	
S86	1-571-281-21	SWITCH, LEAF (HALF)	
**			
*	1-634-841-14	SW-B BOARD **********	
	3-343-419-01	HOLDER (S SENSER A)	
		< CONNECTOR >	
*CNP81	1-568-852-11	SOCKET, CONNECTOR 9P	
		< IC >	
IC81	8-719-710-03	DIODE NJL5165K-B	
		< RESISTOR >	
R81	1-249-414-11	CARBON 560 5%	1/4W
R82	1-247-818-11	CARBON 300 5%	1/4W
R83	1-247-834-11	CARBON 1.3K 5%	1/4W
R84	1-249-417-11	CARBON 1K 5%	1/4W
R85	1-249-408-11	CARBON 180 5%	1/4W
		< SWITCH >	
S81	1-571-958-11	SWITCH, PUSH (1 KEY) (STOP)	
S82	1-571-281-21	SWITCH, LEAF (70EQ)	
S83	1-571-281-21	SWITCH, LEAF (METAL)	
S84	1-571-281-21	SWITCH, LEAF (REC A)	
S85	1-571-281-21	SWITCH, LEAF (REC B)	
S86	1-571-281-21	SWITCH, LEAF (HALF)	
**			
		MISCELLANEOUS *************	
* 5	1-574-726-11	WIRE, FLAT TYPE (13 CORE)	
6	1-690-907-11	WIRE (FLAT TYPE) (17 CORE)	
69	1-690-906-11	WIRE (FLAT TYPE) (9 CORE)	
* 120	1-634-841-14	SW-A BOARD (DECK A)	
* 120	1-634-841-14	SW-B BOARD (DECK B)	
HP901	A-2003-837-A	BASE ASSY, HEAD (PB) (DECK A)	

Ref. No.	Part No.	Description	Remark
HRPE901	A-2003-838-A	BASE ASSY, HEAD (PB/REC/ERASE)	(DECK B)
M901A	X-3359-417-1	MOTOR ASSY (CAPSTAN) (DECK A)	
M901B	X-3359-417-1	MOTOR ASSY (CAPSTAN) (DECK B)	
M902A	X-3363-501-1	MOTOR ASSY (REEL) (DECK A)	
M902B	X-3363-501-1	MOTOR ASSY (REEL) (DECK B)	

****

ACCESSORIES & PACKING MATERIALS
****

*	3-350-154-01	CUSHION
*	3-704-350-01	SHEET (STANDARD), PROTECTION

****

****

HARDWARE LIST

****

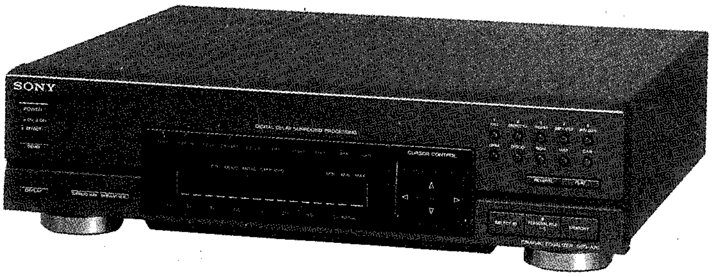
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S
#2	7-621-773-93	SCREW (PANEL 2.6 TP2)
#3	7-685-645-79	SCREW +BVTP 3X6 TYPE2 N-S
#4	7-621-775-00	SCREW +B 2.6X3
#5	7-627-556-08	SCREW +P 2.6X2.8

SEQ-A70/D707

SERVICE MANUAL

E Model
Australian Model
Tourist Model
SEQ-A70

AEP Model
UK Model
SEQ-D707


This photo is SEQ-A70.

This set is the Graphic Equalizer section in LBT-A70/A70CD/A70CDM/D707/D707CD.

SPECIFICATIONS

Boost/cut range	± 12 dB
Centre frequency	63 Hz, 160 Hz, 400 Hz, 1 kHz, 2.5 kHz, 6.3 kHz, 15 kHz
Frequency response (with EFFECT OFF)	15 Hz to 50 kHz $^{+0}_{-3}$ dB
Harmonic distortion	Less than 0.02% (at 1 kHz, 1 V output)
Signal-to-noise ratio (with EFFECT OFF)	Better than 90 dB (A network, 1 V output)
Power requirement	A70: 110−120V/220−240V AC, adjustable with the voltage selector, 50/60 Hz AEP, G, IT model: 220V−230V AC, 50/60Hz UK model: 240V AC, 50/60Hz
Power consumption	15 W
Weight	Approx. 2.7 kg (5 lb 15 oz)
Dimensions	Approx. 355 x 95 x 305 mm (14 x 3 3/4 x 12 1/8 inches) (w/h/d, including projection)

Design and specifications are subject to change without notice.

- G : Germany model
  IT: Italian model

MICROFILM

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

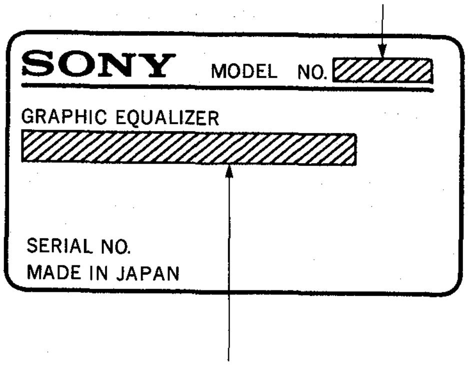
GRAPHIC EQUALIZER

SONY®

MODEL IDENTIFICATION

— Specification Label —

E, EA, TR, AUS model : SEQ-A70
AEP, IT, UK, G model : SEQ-D707



AEP, IT model : AC: 220V−230V~ 50/60Hz
UK model : AC: 240V~ 50/60Hz
E, EA, TR, AUS model: AC: 110−120V/220−240V~15W 50/60Hz
G model : SYSTEM LBT-D707
AC: 220V−230V~ 50/60Hz

- EA : Saudi Arabia model
  TR : Tourist model
  AUS: Australian model
  IT : Italian model
  G : Germany model

TABLE OF CONTENTS

Section *Title* *Page*

1. GENERAL

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2. DIAGRAMS

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2-2. Printed Wiring Boards 5
2-3. Schematic Diagram 7
2-4. Semiconductor Lead Layouts 11

3. EXPLODED VIEW 13

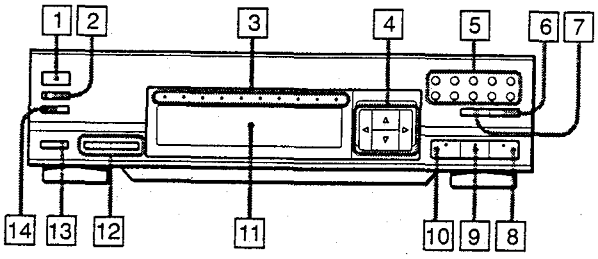
4. ELECTRICAL PARTS LIST 14

* * *

SECTION 1
GENERAL

This section is extracted from instruction manual.

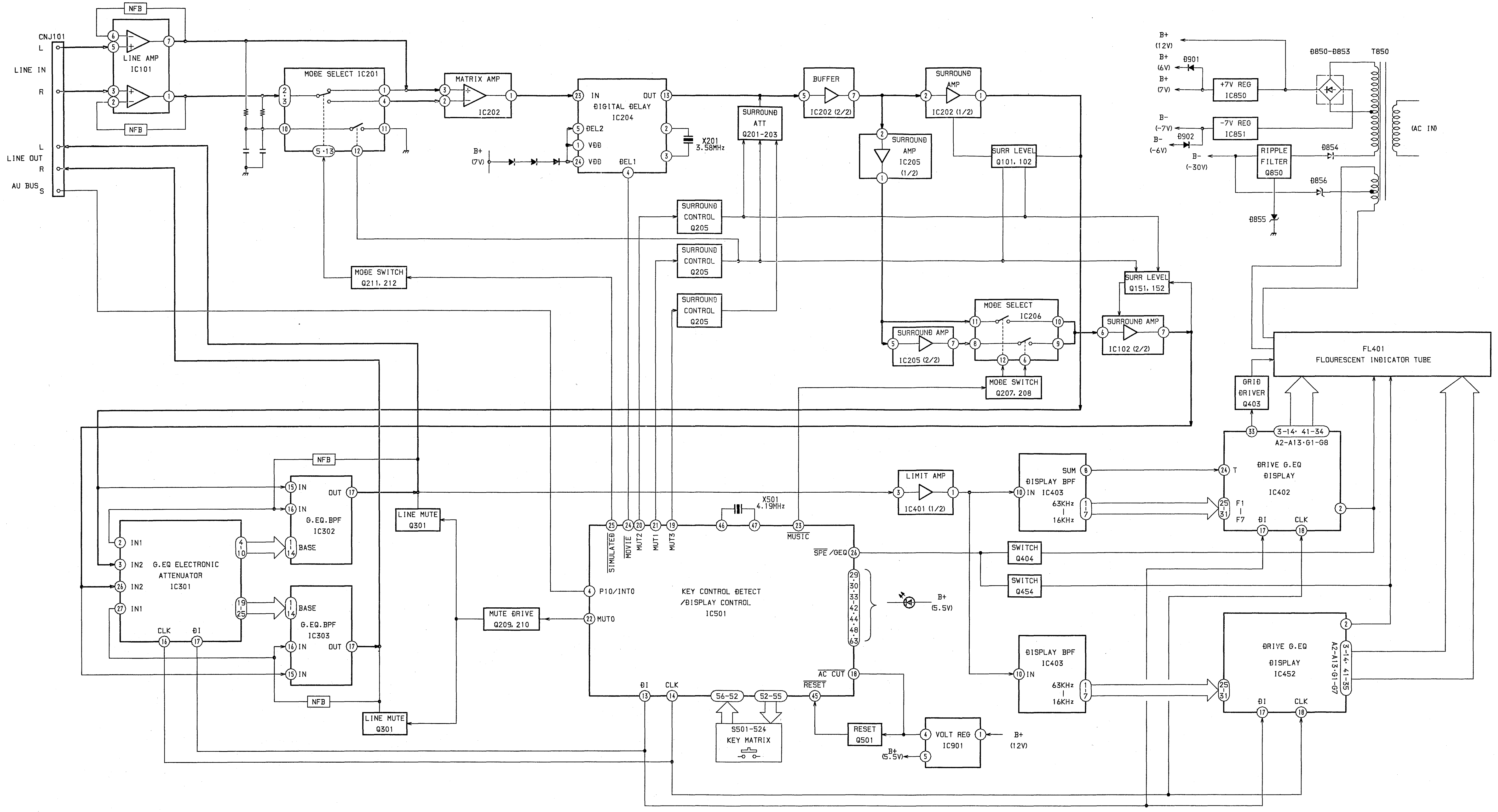
1-1. LOCATION OF CONTROLS



1 POWER switch (8)
2 EFFECT button and indicator (36, 38, 40)
3 Preset setting indicators
4 CURSOR CONTROL buttons (38, 39)
5 Preset setting buttons (37)
6 FLAT button (40)
7 REVERSE button (40)
8 MEMORY buttons and indicator (39)
9 PERSONAL FILE 1 – 5 button and indicator (39)
10 SELECT 10 button and indicator (37)
11 Display window
12 Surround effect buttons
  SURROUND MODE button (36)
  SURROUND LEVEL button (36)
13 DISPLAY button (40)
14 DEMO button and indicator (35)

SECTION 2
DIAGRAMS

2-1. BLOCK DIAGRAM


NFB
CNJ101
L
LINE IN
R
LINE AMP
IC101
L
LINE OUT
R
AU BUS
S
NFB
MODE SELECT IC201
MATRIX AMP
IC202
IN
OUT
DIGITAL DELAY
IC204
DEL2
VDD
VDD
DEL1
X201
3.58MHz
B+
(7V)
SURROUND
ATT
Q201-203
BUFFER
IC202 (2/2)
SURROUND
AMP
IC202 (1/2)
SURROUND
AMP
IC205
(1/2)
SURR LEVEL
Q101, 102
SURROUND
CONTROL
Q205
SURROUND
CONTROL
Q205
SURROUND
CONTROL
Q205
MODE SWITCH
Q211, 212
SURR LEVEL
Q151, 152
MODE SELECT
IC206
SURROUND AMP
IC205 (2/2)
SURROUND AMP
IC102 (2/2)
MODE SWITCH
Q207, 208
B+
(12V)
B+
(6V)
D901
B+
(7V)
+7V REG
IC850
D850-D853
T850
B-
(-7V)
B-
(-6V)
D902
-7V REG
IC851
(AC IN)
B-
(-30V)
RIPPLE
FILTER
Q850
D854
D856
D855
FL401
FLOURESCENT INDICATOR TUBE
GRID
DRIVER
Q403
3-14· 41-34
A2-A13·G1-G8
DRIVE G.EQ
DISPLAY
IC402
T
F1
F7
DI
CLK
NFB
IN
OUT
IN
G.EQ.BPF
IC302
BASE
IN1
IN2
IN2
IN1
G.EQ ELECTRONIC
ATTENUATOR
IC301
CLK
DI
BASE
G.EQ.BPF
IC303
IN
OUT
IN
NFB
LINE MUTE
Q301
LINE MUTE
Q301
MUTE DRIVE
Q209, 210
X501
4.19MHz
SIMULATED
MOVIE
MUT2
MUT1
MUT3
MUSIC
SPE/GEQ
P10/INTO
MUTO
KEY CONTROL DETECT
/DISPLAY CONTROL
IC501
B+
(5.5V)
AC CUT
RESET
DI
CLK
56-52
52-55
S501-524
KEY MATRIX
RESET
Q501
VOLT REG
IC901
B+
(12V)
B+
(5.5V)
LIMIT AMP
IC401 (1/2)
SUM
DISPLAY BPF
IN IC403
63KHz
16KHz
SWITCH
Q404
SWITCH
Q454
DISPLAY BPF
IC403
IN
63KHz
16KHz
DRIVE G.EQ
DISPLAY
IC452
3-14· 41-35
A2-A13·G1-G7
DI
CLK

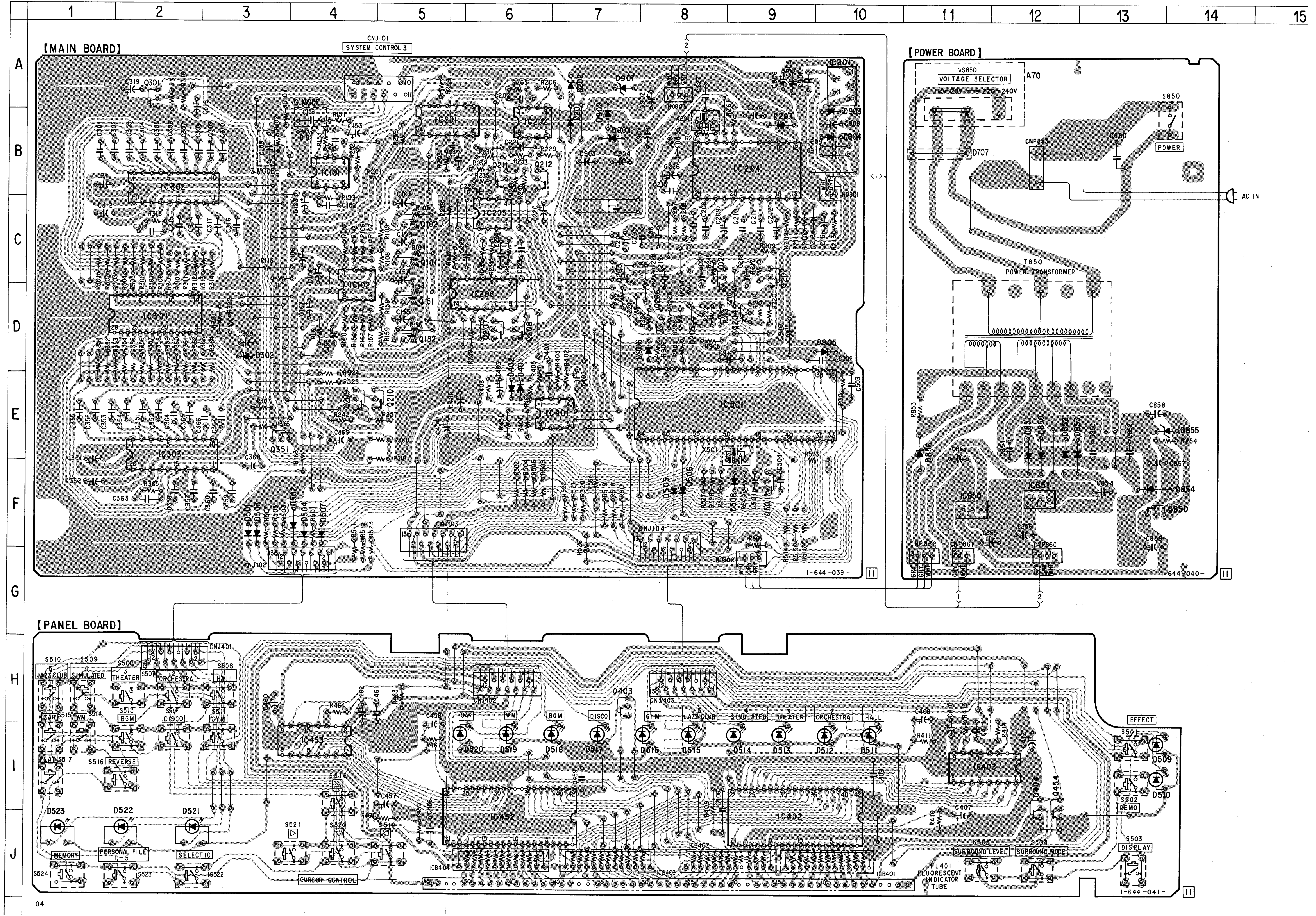
• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D201	B-7	IC101	B-4
D202	A-7	IC102	D-4
D203	B-9	IC201	B-5
D302	D-3	IC202	B-6
D401	E-6	IC204	B-9
D402	E-6	IC205	C-6
D501	F-3	IC206	D-6
D502	F-4	IC301	D-2
D503	F-3	IC302	B-2
D504	F-4	IC303	E-2
D505	F-8	IC401	E-7
D506	F-8	IC402	J-9
D507	F-4	IC403	I-11
D508	F-9	IC452	J-6
D509	I-13	IC453	I-4
D510	I-13	IC501	E-9
D511	I-10	IC850	F-11
D512	I-10	IC851	F-12
D513	I-9	IC901	A-10
D514	I-9		
D515	I-8	Q101	C-5
D516	I-8	Q102	C-5
D517	I-7	Q151	D-5
D518	I-7	Q152	D-5
D519	I-6	Q201	C-8
D520	I-6	Q202	C-9
D521	J-2	Q203	C-7
D522	J-2	Q204	D-9
D523	J-1	Q205	D-8
D850	E-12	Q206	D-8
D851	E-12	Q207	D-6
D852	E-12	Q208	D-6
D853	E-12	Q209	E-4
D854	F-13	Q210	E-5
D855	E-13	Q211	B-6
D856	E-11	Q212	B-6
D901	B-7	Q301	A-2
D902	B-7	Q351	E-3
D903	B-10	Q403	H-7
D904	B-10	Q404	I-12
D905	D-10	Q454	I-12
D906	D-8	Q501	F-9
D907	A-7	Q850	F-13

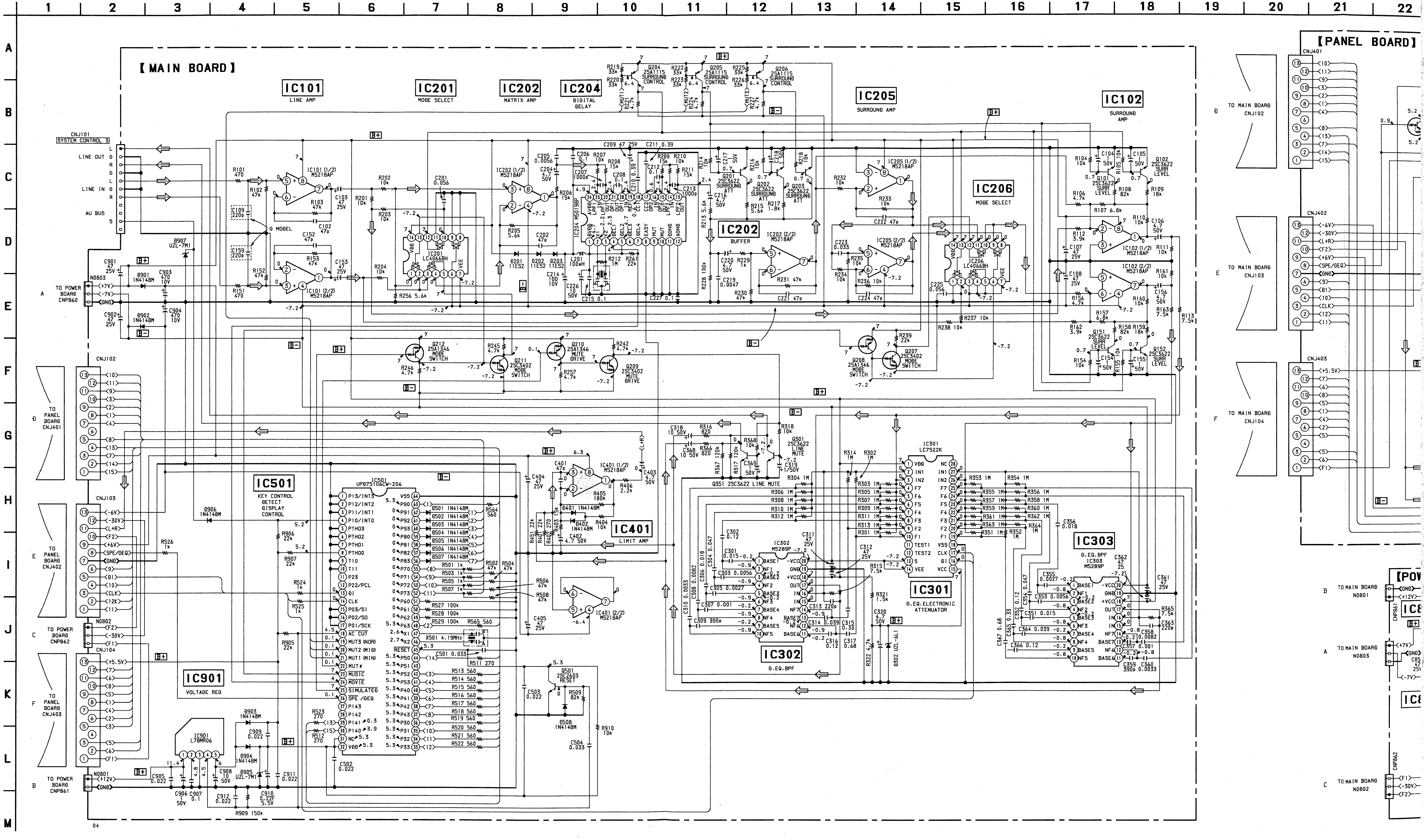
Note:

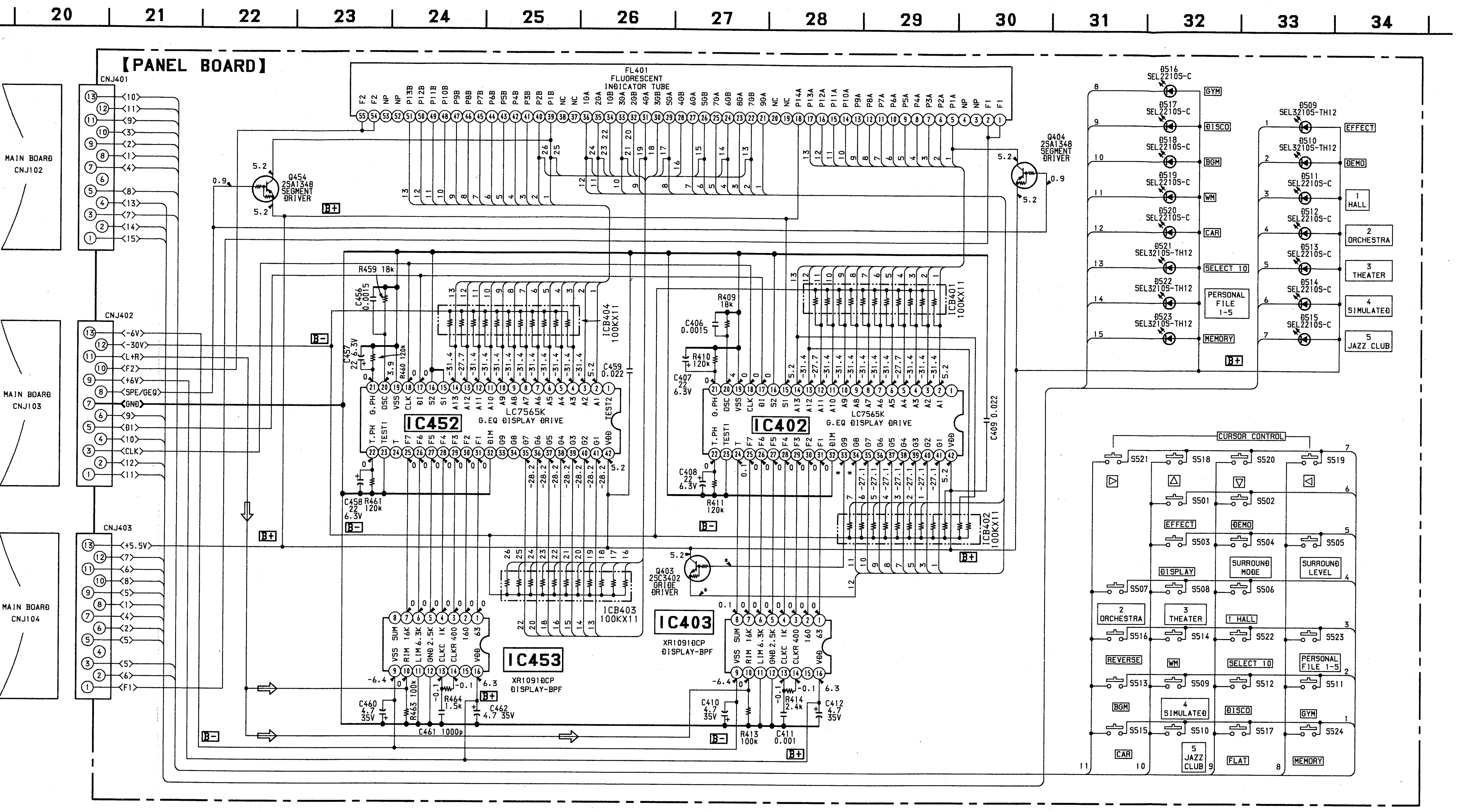
- ○—— : parts extracted from the component side.
- G: Germany model

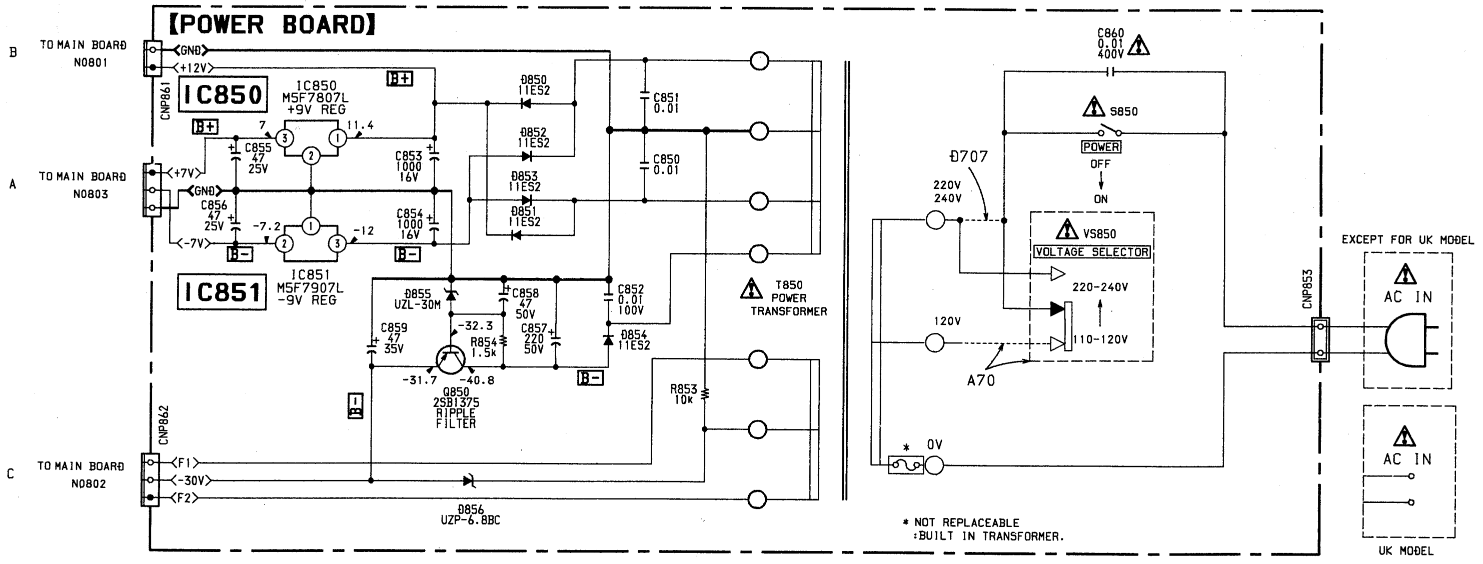
2-2. PRINTED WIRING BOARDS • Refer to page 11 for Semiconductor Lead Layouts.


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
H
I
J
[MAIN BOARD]
CNJ101
SYSTEM CONTROL 3
IC101
IC102
IC201
IC202
IC204
IC205
IC206
IC301
IC302
IC303
IC401
IC501
IC901
G MODEL
CNJ102
CNJ103
CNJ104
N0801
N0802
N0803
1-644-039-
[POWER BOARD]
VS850
VOLTAGE SELECTOR
110-120V ⟷ 220-240V
A70
S850
POWER
CNP853
C860
D707
AC IN
T850
POWER TRANSFORMER
IC850
IC851
CNP862
CNP861
CNP860
Q850
1-644-040-
[PANEL BOARD]
CNJ401
CNJ402
CNJ403
S510 JAZZ CLUB
S509 SIMULATED
S508 THEATER
S507 ORCHESTRA
S506 HALL
S515 CAR
S514 WM
S513 BGM
S512 DISCO
S511 GYM
S517 FLAT
S516 REVERSE
D523
D522
D521
S524 MEMORY
S523 PERSONAL FILE 1-5
S522 SELECT 10
S521
S520
S519
S518
CURSOR CONTROL
IC453
IC452
IC402
IC403
Q403
Q404
Q454
CAR
WM
BGM
DISCO
GYM
JAZZ CLUB
SIMULATED
THEATER
ORCHESTRA
HALL
D520
D519
D518
D517
D516
D515
D514
D513
D512
D511
EFFECT
S501
D509
D510
S502 DEMO
S503 DISPLAY
S505 SURROUND LEVEL
S504 SURROUND MODE
FL401 FLUORESCENT INDICATOR TUBE
1-644-041-
04

2-3. SCHEMATIC DIAGRAM •Refer to page 12 for IC Block Diagrams.


【MAIN BOARD】
【PANEL BOARD】
IC101
LINE AMP
IC201
MODE SELECT
IC202
MATRIX AMP
IC204
DIGITAL DELAY
IC205
SURROUND AMP
IC102
SURROUND AMP
IC206
MODE SELECT
IC202
BUFFER
IC501
KEY CONTROL DETECT DISPLAY CONTROL
UPD75106CW-206
IC401
LIMIT AMP
IC301
G.EQ.ELECTRONIC ATTENUATOR
LC7522K
IC302
G.EQ.BPF
M5289P
IC303
G.EQ.BPF
IC901
VOLTAGE REG
L78MR06
CNJ101
SYSTEM CONTROL 3
LINE OUT
LINE IN
AU BUS
TO POWER BOARD CNP860
TO PANEL BOARD CNJ401
TO PANEL BOARD CNJ402
TO POWER BOARD CNP862
TO PANEL BOARD CNJ403
TO POWER BOARD CNP861
TO MAIN BOARD CNJ102
TO MAIN BOARD CNJ103
TO MAIN BOARD CNJ104
TO MAIN BOARD N0801
TO MAIN BOARD N0803
TO MAIN BOARD N0802
Q204 2SA1115 SURROUND CONTROL
Q205 2SA1115 SURROUND CONTROL
Q206 2SA1115 SURROUND CONTROL
Q201 2SC3622 SURROUND ATT
Q202 2SC3622 SURROUND ATT
Q203 2SC3622 SURROUND ATT
Q101 2SC3622 SURR LEVEL
Q102 2SC3622 SURR LEVEL
Q151 2SC3622 SURR LEVEL
Q152 2SC3622 SURR LEVEL
Q212 2SA1346 MODE SWITCH
Q211 2SC3402 MODE SWITCH
Q210 2SA1346 MUTE DRIVE
Q209 2SC3402 MUTE DRIVE
Q208 2SA1346 MODE SWITCH
Q207 2SC3402 MODE SWITCH
Q301 2SC3622 LINE MUTE
Q351 2SC3622 LINE MUTE
Q501 2SC2603 RESET
IC201 LC4066BH
IC206 LC4066BH
IC101 (1/2) M5218AP
IC101 (2/2) M5218AP
IC202 (1/2) M5218AP
IC202 (2/2) M5218AP
IC205 (1/2) M5218AP
IC205 (2/2) M5218AP
IC102 (1/2) M5218AP
IC102 (2/2) M5218AP
IC401 (1/2) M5218AP
IC401 (2/2) M5218AP
IC204 M50198P
X501 4.19MHz
G MODEL
04


20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
【PANEL BOARD】
CNJ401
CNJ402
CNJ403
MAIN BOARD CNJ102
MAIN BOARD CNJ103
MAIN BOARD CNJ104
FL401 FLUORESCENT INDICATOR TUBE
Q454 2SA1348 SEGMENT DRIVER
Q404 2SA1348 SEGMENT DRIVER
Q403 2SC3402 GRIDE DRIVER
IC452
IC402
LC7565K G.EQ DISPLAY DRIVE
IC453
IC403
XR10910CP DISPLAY-BPF
ICB401 100KX11
ICB402 100KX11
ICB403 100KX11
ICB404 100KX11
R459 18k
R409 18k
R410 120k
R411 120k
R413 100k
R414 2.4k
R463 100k
R464 1.5k
C406 0.0015
C407 22 6.3V
C408 22 6.3V
C409 0.022
C410 4.7 35V
C411 0.001
C412 4.7 35V
C456 0.0015
C457 22 6.3V
C458 22 6.3V
C459 0.022
C460 4.7 35V
C461 1000p
C462 4.7 35V
D516 SEL2210S-C
D517 SEL2210S-C
D518 SEL2210S-C
D519 SEL2210S-C
D520 SEL2210S-C
D521 SEL3210S-TH12
D522 SEL3210S-TH12
D523 SEL3210S-TH12
D509 SEL3210S-TH12
D510 SEL3210S-TH12
D511 SEL2210S-C
D512 SEL2210S-C
D513 SEL2210S-C
D514 SEL2210S-C
D515 SEL2210S-C
GYM
DISCO
BGM
WM
CAR
SELECT 10
PERSONAL FILE 1-5
MEMORY
EFFECT
DEMO
1 HALL
2 ORCHESTRA
3 THEATER
4 SIMULATED
5 JAZZ CLUB
CURSOR CONTROL
S501
S502
S503
S504
S505
S506
S507
S508
S509
S510
S511
S512
S513
S514
S515
S516
S517
S518
S519
S520
S521
S522
S523
S524
DISPLAY
SURROUND MODE
SURROUND LEVEL
REVERSE
FLAT
B+
B−

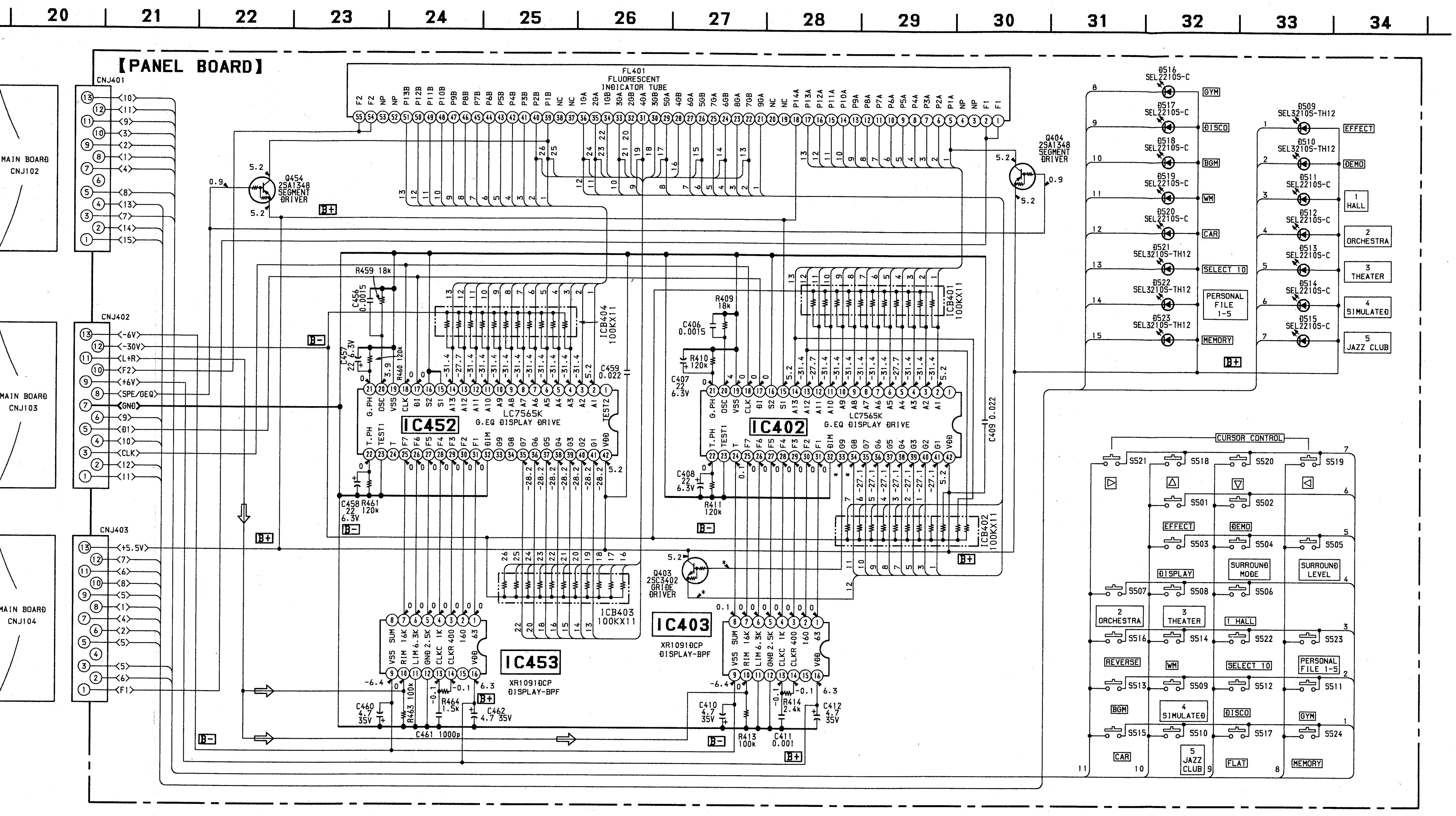

【POWER BOARD】
TO MAIN BOARD N0801
TO MAIN BOARD N0803
TO MAIN BOARD N0802
CNP861
CNP862
CNP853
IC850 M5F7807L +9V REG
IC851 M5F7907L -9V REG
D850 11ES2
D851 11ES2
D852 11ES2
D853 11ES2
D854 11ES2
D855 UZL-30M
D856 UZP-6.8BC
Q850 2SB1375 RIPPLE FILTER
C850 0.01
C851 0.01
C852 0.01 100V
C853 1000 16V
C854 1000 16V
C855 47 25V
C856 47 25V
C857 220 50V
C858 47 50V
C859 47 35V
C860 0.01 400V
R853 10k
R854 1.5k
T850 POWER TRANSFORMER
S850 POWER OFF ON
VS850 VOLTAGE SELECTOR
220-240V
110-120V
D707
A70
EXCEPT FOR UK MODEL
AC IN
UK MODEL
* NOT REPLACEABLE :BUILT IN TRANSFORMER.

Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- △ : internal component.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- B+ : B+ Line
- B− : B− Line
- Voltage is dc with respect to ground under no-signal conditions.
  no mark: POWER ON
  ✱ : Impossible measurement point
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : LINE IN
- G: Germany model


20
21
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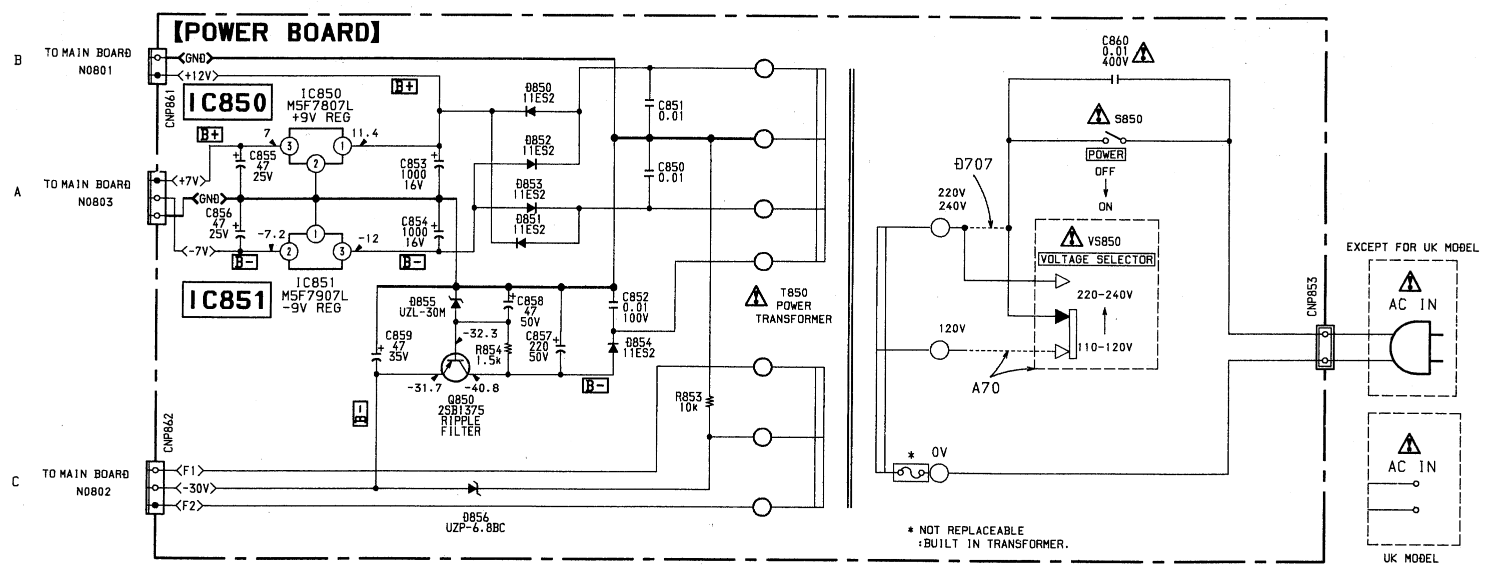
26
27
28
29
30
31
32
33
34
【PANEL BOARD】
CNJ401
MAIN BOARD CNJ102
CNJ402
MAIN BOARD CNJ103
CNJ403
MAIN BOARD CNJ104
FL401 FLUORESCENT INDICATOR TUBE
Q454 2SA1348 SEGMENT DRIVER
Q404 2SA1348 SEGMENT DRIVER
Q403 2SC3402 GRIDE DRIVER
IC452
IC402
LC7565K G.EQ DISPLAY DRIVE
IC453
IC403
XR10910CP DISPLAY-BPF
ICB401 100KX11
ICB402 100KX11
ICB403 100KX11
ICB404 100KX11
R459 18k
R409 18k
C406 0.0015
C459 0.022
C409 0.022
C461 1000p
C411 0.001
D509 SEL3210S-TH12
D516 SEL2210S-C
GYM
DISCO
BGM
WM
CAR
SELECT 10
PERSONAL FILE 1-5
MEMORY
EFFECT
DEMO
1 HALL
2 ORCHESTRA
3 THEATER
4 SIMULATED
5 JAZZ CLUB
CURSOR CONTROL
DISPLAY
SURROUND MODE
SURROUND LEVEL
REVERSE
FLAT
B+
B−


【POWER BOARD】
TO MAIN BOARD N0801
TO MAIN BOARD N0803
TO MAIN BOARD N0802
CNP861
CNP862
CNP853
IC850 MSF7807L +9V REG
IC851 MSF7907L -9V REG
Q850 2SB1375 RIPPLE FILTER
D855 UZL-30M
D856 UZP-6.8BC
D850 11ES2
D851 11ES2
D852 11ES2
D853 11ES2
D854 11ES2
C860 0.01 400V
S850 POWER OFF ON
VS850 VOLTAGE SELECTOR
220-240V
110-120V
T850 POWER TRANSFORMER
D707
A70
0V
* NOT REPLACEABLE :BUILT IN TRANSFORMER.
EXCEPT FOR UK MODEL
AC IN
UK MODEL

Note:

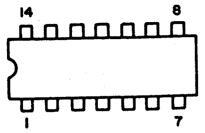
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- B+ : B+ Line
- B− : B− Line
- Voltage is dc with respect to ground under no-signal conditions.
  no mark : POWER ON
  ✻ : Impossible measurement point
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : LINE IN
- G: Germany model

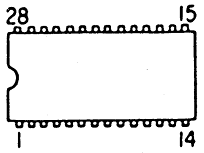
2-4. SEMICONDUCTOR LEAD LAYOUTS

LC4966



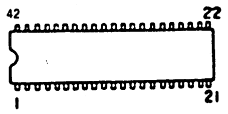
(TOP VIEW)

LC7522K



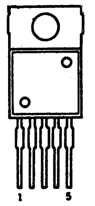
(Top view)

LC7565K

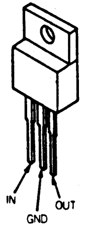


(Top view)

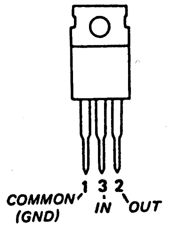
L78MR06



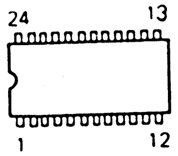
M5F7807



M5F7907

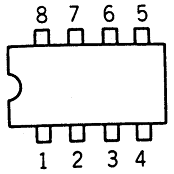

1 3 2
COMMON (GND)
IN
OUT

M50198P



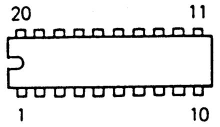
(Top view)

M5218AP



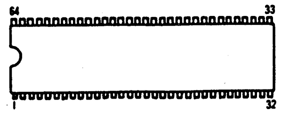
(Top view)

M5289P



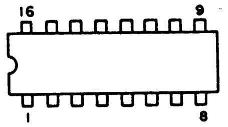
(Top view)

μPD75106CW-206



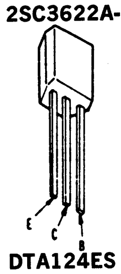
(Top view)

XR1091DCP

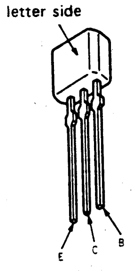


(TOP VIEW)

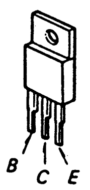
DTA114ES
DTC114ES
2SC3603-EF
2SC3622A-LK



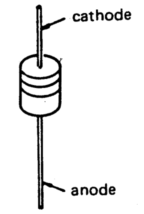
DTA124ES
2SA1175-HFE


letter side
E
C
B

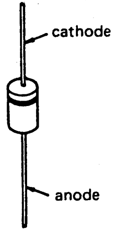
2SB1094-LK



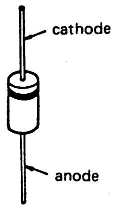
HZS6A1L
UZL-7M1
11ES2


cathode
anode

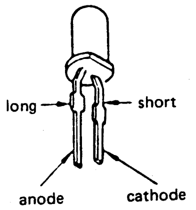
UZP-6. 8BC


cathode
anode

1N4148M

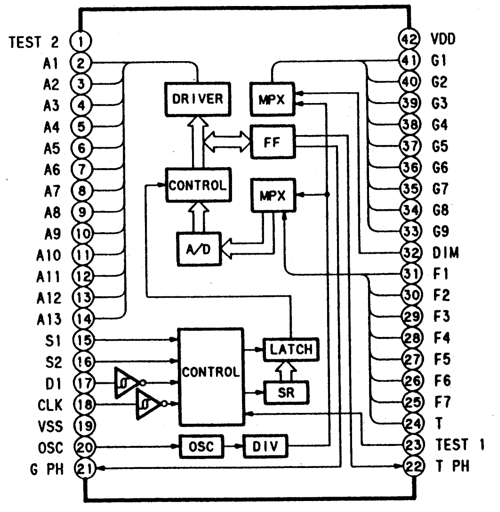

cathode
anode

SEL2210S-C
SEL3210S-C

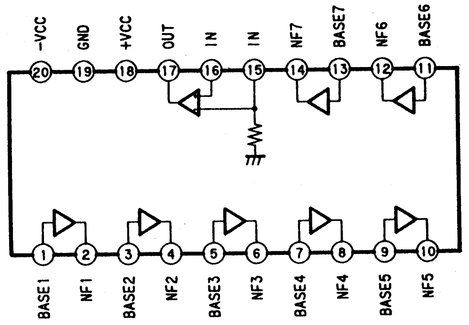

long
short
anode
cathode

• IC Block Diagrams

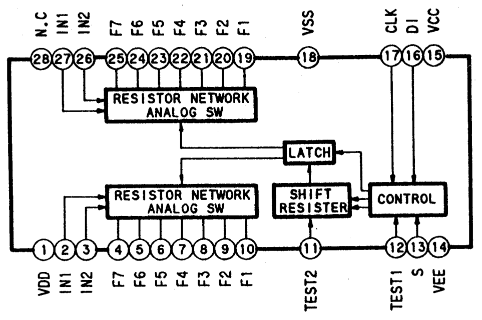
IC301 LC7522K


TEST 2 1
A1 2
A2 3
A3 4
A4 5
A5 6
A6 7
A7 8
A8 9
A9 10
A10 11
A11 12
A12 13
A13 14
S1 15
S2 16
DI 17
CLK 18
VSS 19
OSC 20
G PH 21
42 VDD
41 G1
40 G2
39 G3
38 G4
37 G5
36 G6
35 G7
34 G8
33 G9
32 DIM
31 F1
30 F2
29 F3
28 F4
27 F5
26 F6
25 F7
24 T
23 TEST 1
22 T PH
DRIVER
MPX
FF
CONTROL
MPX
A/D
LATCH
CONTROL
SR
OSC
DIV

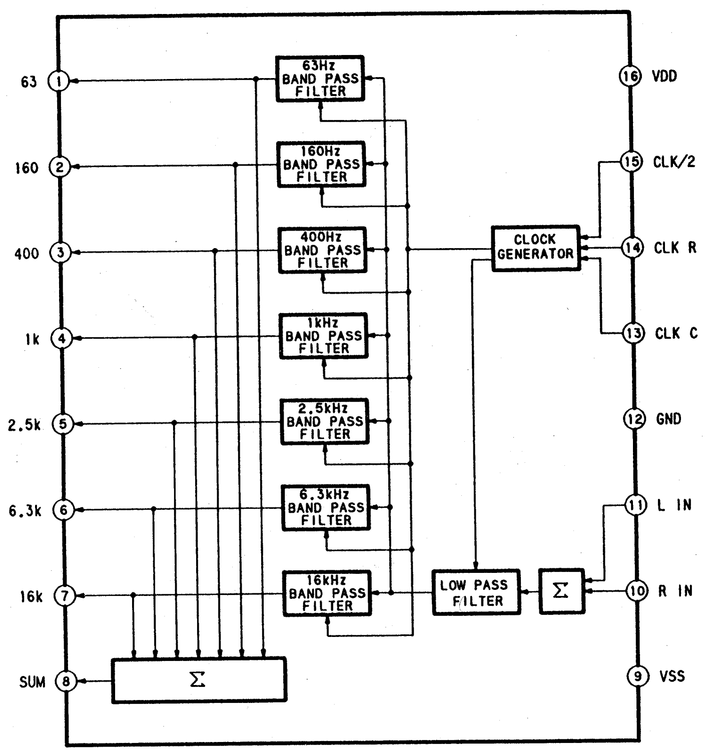
IC302, 303 M5289P


-VCC 20
GND 19
+VCC 18
OUT 17
IN 16
IN 15
NF7 14
BASE7 13
NF6 12
BASE6 11
BASE1 1
NF1 2
BASE2 3
NF2 4
BASE3 5
NF3 6
BASE4 7
NF4 8
BASE5 9
NF5 10

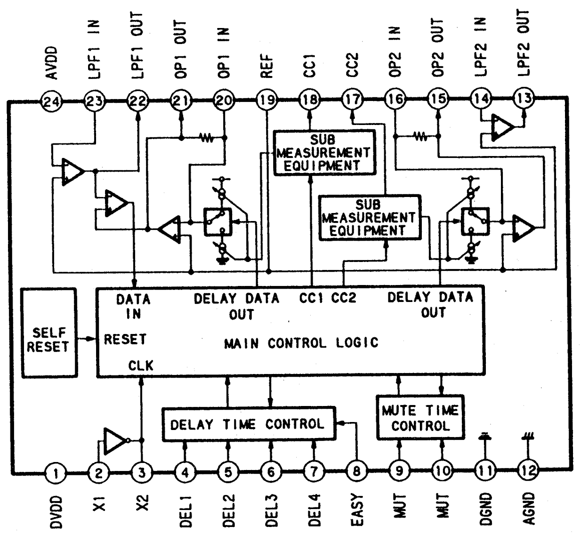
IC402, 452 LC7565K


N.C 28
IN1 27
IN2 26
F7 25
F6 24
F5 23
F4 22
F3 21
F2 20
F1 19
VSS 18
CLK 17
DI 16
VCC 15
RESISTOR NETWORK ANALOG SW
LATCH
RESISTOR NETWORK ANALOG SW
SHIFT RESISTER
CONTROL
VDD 1
IN1 2
IN2 3
F7 4
F6 5
F5 6
F4 7
F3 8
F2 9
F1 10
TEST2 11
TEST1 12
S 13
VEE 14

IC403, 453 XR1091DCP


63 1
160 2
400 3
1k 4
2.5k 5
6.3k 6
16k 7
SUM 8
16 VDD
15 CLK/2
14 CLK R
13 CLK C
12 GND
11 L IN
10 R IN
9 VSS
63Hz BAND PASS FILTER
160Hz BAND PASS FILTER
400Hz BAND PASS FILTER
1kHz BAND PASS FILTER
2.5kHz BAND PASS FILTER
6.3kHz BAND PASS FILTER
16kHz BAND PASS FILTER
CLOCK GENERATOR
LOW PASS FILTER
Σ
Σ

IC204 M50198P

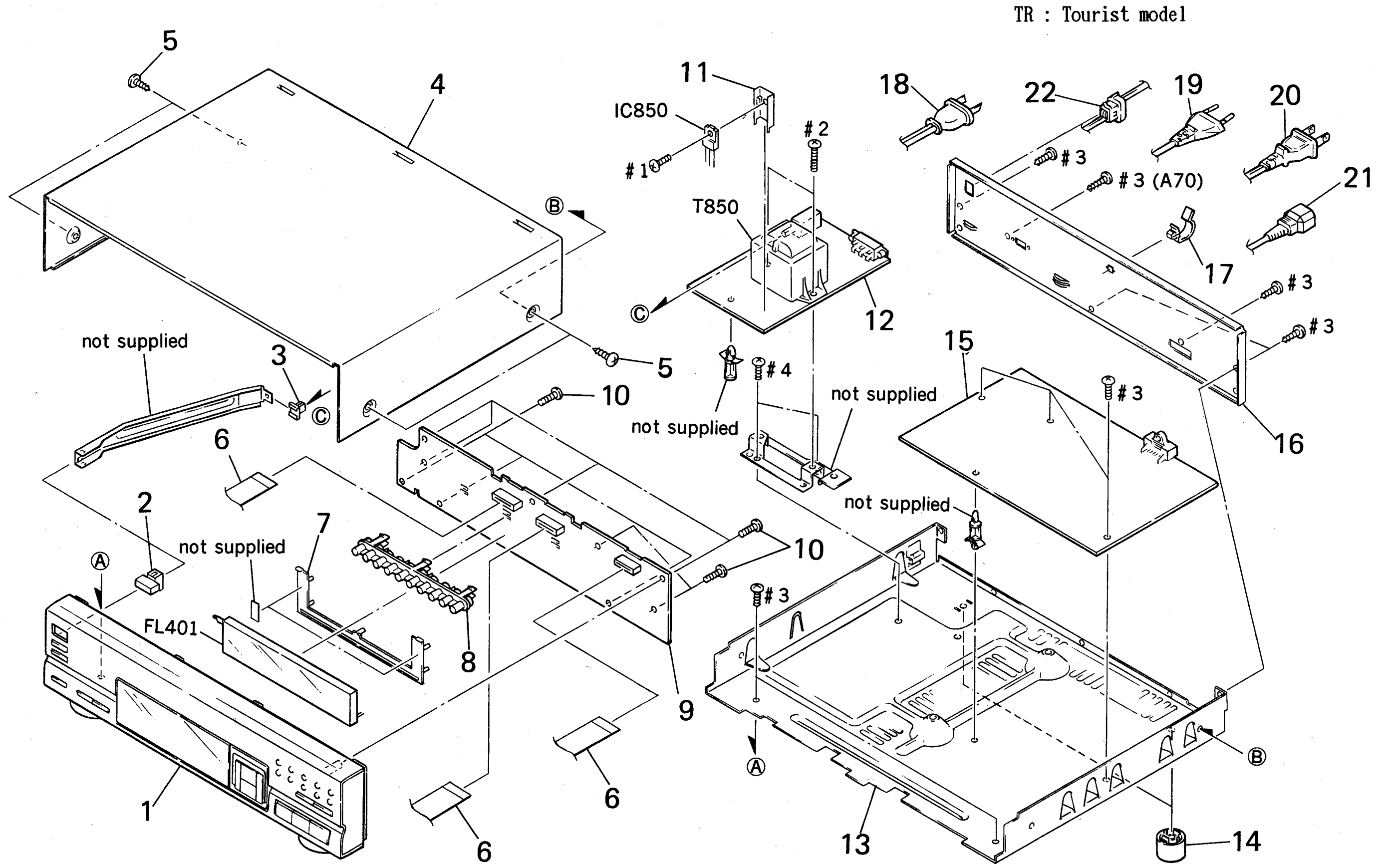

AVDD 24
LPF1 IN 23
LPF1 OUT 22
OP1 OUT 21
OP1 IN 20
REF 19
CC1 18
CC2 17
OP2 IN 16
OP2 OUT 15
LPF2 IN 14
LPF2 OUT 13
SUB MEASUREMENT EQUIPMENT
SUB MEASUREMENT EQUIPMENT
SELF RESET
DATA IN
DELAY DATA OUT
CC1 CC2
DELAY DATA OUT
RESET
MAIN CONTROL LOGIC
CLK
DELAY TIME CONTROL
MUTE TIME CONTROL
DVDD 1
X1 2
X2 3
DEL1 4
DEL2 5
DEL3 6
DEL4 7
EASY 8
MUT 9
MUT 10
DGND 11
AGND 12

SECTION 3
EXPLODED VIEW

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE)... (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Hardware (# mark) list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

· G : Germany model
IT : Italian model
AUS: Australian model
EA : Saudi Arabia model
TR : Tourist model



Ref. No.	Part No.	Description	Remark
1	X-4942-719-1	PANEL ASSY (A), FRONT (AEP, UK, G)	
1	X-4942-720-1	PANEL ASSY (B), FRONT (IT)	
1	X-4942-721-1	PANEL ASSY (C), FRONT (A70)	
2	4-942-061-01	BUTTON (P) (IT)	
2	4-942-061-11	BUTTON (P) (EXCEPT FOR IT)	
3	4-866-342-00	JOINT (B), KNOB	
* 4	4-939-802-31	CASE (EXCEPT FOR IT)	
* 4	4-939-802-71	CASE (IT)	
5	3-363-099-01	SCREW (CASE +3X8 TP2)	
6	1-575-784-11	WIRE, FLAT TYPE (13 CORE)	
* 7	4-950-649-01	HOLDER, FL TUBE	
8	4-952-532-01	HOLDER, LED	
* 9	A-4347-749-A	PANEL BOARD, COMPLETE	
10	4-951-620-01	SCREW (2.6X8), +BVTP	
* 11	3-309-144-21	HEAT SINK	
* 12	1-644-040-11	POWER BOARD	
* 13	4-924-520-01	CHASSIS	
14	4-931-169-01	FOOT	
* 15	A-4347-748-A	MAIN BOARD, COMPLETE (G)	
* 15	A-4347-751-A	MAIN BOARD, COMPLETE (EXCEPT FOR G)	
* 16	4-952-534-01	PANEL (B3082), BACK (IT)	
* 16	4-952-534-11	PANEL (B3082), BACK (AEP)	
* 16	4-952-534-21	PANEL (B3082), BACK (UK)	
* 16	4-952-534-31	PANEL (B3082), BACK (A70)	
* 16	4-952-534-41	PANEL (B3082), BACK (G)	
* 17	4-949-235-01	HOOK	
⚠18	1-690-056-11	CORD, POWER (AUS)	
⚠19	1-575-651-11	CORD, POWER (AEP, G, IT, EA)	
⚠20	1-575-656-11	CORD, POWER (E, TR)	
⚠21	1-575-669-21	CORD, POWER (UK)	
* 22	3-703-244-00	BUSHING (2104), CORD (EXCEPT FOR E, TR)	
* 22	3-703-571-11	BUSHING (S) (4516), CORD (E, TR)	
FL401	1-519-748-11	INDICATOR TUBE, FLUORESCENT	
IC850	8-759-604-86	IC M5F7807	
⚠T850	1-450-925-11	TRANSFORMER, POWER (UK)	
⚠T850	1-450-926-11	TRANSFORMER, POWER (AEP, G, IT)	
⚠T850	1-450-927-11	TRANSFORMER, POWER (A70)	

MAIN **PANEL** **POWER**

SECTION 4
ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indicating parts by reference number, please include the board.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

· G : Germany model
IT : Italian model
AUS: Australian model
EA : Saudi Arabia model
TR : Tourist model

Ref. No.	Part No.	Description				Remark
*	A-4347-748-A	MAIN BOARD, COMPLETE (G)				
*	A-4347-751-A	MAIN BOARD, COMPLETE (EXCEPT FOR G)				
		************************************				
*	A-4347-749-A	PANEL BOARD, COMPLETE				
		*********************				
*	1-644-040-11	POWER BOARD				
		***********				
*	3-309-144-21	HEAT SINK				
*	4-950-649-01	HOLDER, FL TUBE				
	4-952-532-01	HOLDER, LED				
	7-682-548-04	SCREW +BVTT 3X8 (S)				
		< CAPACITOR >				
C102	1-162-215-31	CERAMIC	47PF	5%	50V	
C103	1-124-910-11	ELECT	47uF	20%	50V	
C104	1-126-301-11	ELECT	1uF	20%	50V	
C105	1-126-301-11	ELECT	1uF	20%	50V	
C106	1-126-163-11	ELECT	4.7uF	20%	50V	
C107	1-124-910-11	ELECT	47uF	20%	50V	
C108	1-124-910-11	ELECT	47uF	20%	50V	
C109	1-162-286-31	CERAMIC	220PF	10%	50V	(G)
C152	1-162-215-31	CERAMIC	47PF	5%	50V	
C153	1-124-910-11	ELECT	47uF	20%	50V	
C154	1-126-301-11	ELECT	1uF	20%	50V	
C155	1-126-301-11	ELECT	1uF	20%	50V	
C156	1-126-163-11	ELECT	4.7uF	20%	50V	
C159	1-162-286-31	CERAMIC	220PF	10%	50V	(G)
C201	1-136-162-00	FILM	0.056uF	5%	50V	
C202	1-162-215-31	CERAMIC	47PF	5%	50V	
C204	1-126-163-11	ELECT	4.7uF	20%	50V	
C205	1-130-480-00	MYLAR	0.0056uF	5%	50V	
C206	1-136-165-00	FILM	0.1uF	5%	50V	
C207	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C208	1-136-165-00	FILM	0.1uF	5%	50V	
C209	1-124-910-11	ELECT	47uF	20%	50V	
C210	1-136-841-81	FILM	0.39uF	5%	50V	
C211	1-136-841-81	FILM	0.39uF	5%	50V	
C212	1-136-165-00	FILM	0.1uF	5%	50V	
C213	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C214	1-124-994-11	ELECT	100uF	20%	10V	
C215	1-136-165-00	FILM	0.1uF	5%	50V	
C216	1-126-163-11	ELECT	4.7uF	20%	50V	
C217	1-126-301-11	ELECT	1uF	20%	50V	
C218	1-126-301-11	ELECT	1uF	20%	50V	
C219	1-106-359-00	MYLAR	4700PF	5%	200V	
C220	1-126-163-11	ELECT	4.7uF	20%	50V	
C221	1-162-215-31	CERAMIC	47PF	5%	50V	
C222	1-162-215-31	CERAMIC	47PF	5%	50V	
C223	1-136-159-00	FILM	0.033uF	5%	50V	
C224	1-162-215-31	CERAMIC	47PF	5%	50V	
C225	1-136-162-00	FILM	0.056uF	5%	50V	
C226	1-126-059-11	ELECT	10uF	20%	50V	
C227	1-164-159-11	CERAMIC	0.1uF		50V	
C301	1-136-155-00	FILM	0.015uF	5%	50V	
C302	1-136-166-00	FILM	0.12uF	5%	50V	
C303	1-130-480-00	MYLAR	0.0056uF	5%	50V	
C304	1-136-161-00	FILM	0.047uF	5%	50V	
C305	1-106-353-00	MYLAR	0.0027uF	5%	50V	
C306	1-136-156-00	FILM	0.018uF	5%	50V	
C307	1-106-343-00	MYLAR	1000PF	5%	200V	
C308	1-130-482-00	MYLAR	0.0082uF	5%	50V	
C309	1-164-080-11	CERAMIC	390PF	10%	50V	
C310	1-130-477-00	MYLAR	0.0033uF	5%	50V	
C311	1-124-910-11	ELECT	47uF	20%	50V	
C312	1-124-910-11	ELECT	47uF	20%	50V	
C313	1-162-286-31	CERAMIC	220PF	10%	50V	
C314	1-136-160-00	FILM	0.039uF	5%	50V	
C315	1-136-171-00	FILM	0.33uF	5%	50V	
C316	1-136-166-00	FILM	0.12uF	5%	50V	
C317	1-136-175-00	FILM	0.68uF	5%	50V	
C318	1-126-059-11	ELECT	10uF	20%	50V	
C319	1-126-301-11	ELECT	1uF	20%	50V	
C320	1-126-163-11	ELECT	4.7uF	20%	50V	
C351	1-136-155-00	FILM	0.015uF	5%	50V	
C352	1-136-166-00	FILM	0.12uF	5%	50V	
C353	1-130-480-00	MYLAR	0.0056uF	5%	50V	
C354	1-136-161-00	FILM	0.047uF	5%	50V	
C355	1-106-353-00	MYLAR	0.0027uF	5%	50V	
C356	1-136-156-00	FILM	0.018uF	5%	50V	
C357	1-106-343-00	MYLAR	1000PF	5%	200V	

Ref. No.	Part No.	Description			Remark
C358	1-130-482-00	MYLAR	0.0082uF	5%	50V
C359	1-164-080-11	CERAMIC	390PF	10%	50V
C360	1-130-477-00	MYLAR	0.0033uF	5%	50V
C361	1-124-910-11	ELECT	47uF	20%	50V
C362	1-124-910-11	ELECT	47uF	20%	50V
C363	1-162-286-31	CERAMIC	220PF	10%	50V
C364	1-136-160-00	FILM	0.039uF	5%	50V
C365	1-136-171-00	FILM	0.33uF	5%	50V
C366	1-136-166-00	FILM	0.12uF	5%	50V
C367	1-136-175-00	FILM	0.68uF	5%	50V
C368	1-126-059-11	ELECT	10uF	20%	50V
C369	1-126-301-11	ELECT	1uF	20%	50V
C401	1-162-215-31	CERAMIC	47PF	5%	50V
C402	1-126-163-11	ELECT	4.7uF	20%	50V
C403	1-126-163-11	ELECT	4.7uF	20%	50V
C404	1-124-910-11	ELECT	47uF	20%	50V
C405	1-124-910-11	ELECT	47uF	20%	50V
C406	1-161-374-11	CERAMIC	0.0015uF	20%	50V
C407	1-124-638-11	ELECT	22uF	20%	10V
C408	1-124-638-11	ELECT	22uF	20%	10V
C409	1-161-494-00	CERAMIC	0.022uF		25V
C410	1-126-163-11	ELECT	4.7uF	20%	50V
C411	1-106-343-00	MYLAR	1000PF	5%	200V
C412	1-126-163-11	ELECT	4.7uF	20%	50V
C456	1-161-374-11	CERAMIC	0.0015uF	20%	50V
C457	1-124-638-11	ELECT	22uF	20%	10V
C458	1-124-638-11	ELECT	22uF	20%	10V
C459	1-161-494-00	CERAMIC	0.022uF		25V
C460	1-126-163-11	ELECT	4.7uF	20%	50V
C461	1-106-343-00	MYLAR	1000PF	5%	200V
C462	1-126-163-11	ELECT	4.7uF	20%	50V
C501	1-136-159-00	FILM	0.033uF	5%	50V
C502	1-161-494-00	CERAMIC	0.022uF		25V
C503	1-161-494-00	CERAMIC	0.022uF		25V
C504	1-136-159-00	FILM	0.033uF	5%	50V
C850	1-164-096-11	CERAMIC	0.01uF		50V
C851	1-164-096-11	CERAMIC	0.01uF		50V
C852	1-106-367-00	MYLAR	0.01uF	5%	200V
C853	1-124-360-00	ELECT	1000uF	20%	16V
C854	1-124-360-00	ELECT	1000uF	20%	16V
C855	1-124-910-11	ELECT	47uF	20%	50V
C856	1-124-910-11	ELECT	47uF	20%	50V
C857	1-124-911-11	ELECT	220uF	20%	50V
C858	1-124-910-11	ELECT	47uF	20%	50V
C859	1-124-910-11	ELECT	47uF	20%	50V
⚠C860	1-161-744-00	CERAMIC	0.01uF		400V
C901	1-124-910-11	ELECT	47uF	20%	50V
C902	1-124-910-11	ELECT	47uF	20%	50V
C903	1-124-997-11	ELECT	470uF	20%	10V

Ref. No.	Part No.	Description			Remark
C904	1-124-997-11	ELECT	470uF	20%	10V
C905	1-161-494-00	CERAMIC	0.022uF		25V
C906	1-126-301-11	ELECT	1uF	20%	50V
C907	1-136-165-00	FILM	0.1uF	5%	50V
C908	1-126-059-11	ELECT	10uF	20%	50V
C909	1-161-494-00	CERAMIC	0.022uF		25V
C910	1-125-486-11	DOUBLE LAYERS	0.22F		5.5V
C911	1-161-494-00	CERAMIC	0.022uF		25V
C912	1-161-494-00	CERAMIC	0.022uF		25V
		< CONNECTOR >			
* CNJ101	1-566-858-31	SOCKET, CONNECTOR 11P(SYSTEM CONTROL 3)			
* CNJ102	1-568-832-11	SOCKET, CONNECTOR 13P			
* CNJ103	1-568-832-11	SOCKET, CONNECTOR 13P			
* CNJ104	1-568-832-11	SOCKET, CONNECTOR 13P			
* CNJ401	1-568-832-11	SOCKET, CONNECTOR 13P			
* CNJ402	1-568-832-11	SOCKET, CONNECTOR 13P			
* CNJ403	1-568-832-11	SOCKET, CONNECTOR 13P			
		< CONNECTOR >			
* CNP853	1-564-321-00	PIN, CONNECTOR 2P			
* CNP860	1-564-337-61	PIN, CONNECTOR 3P			
* CNP861	1-564-336-00	PIN, CONNECTOR 2P			
* CNP862	1-564-337-00	PIN, CONNECTOR 3P			
		< DIODE >			
D201	8-719-200-82	DIODE	11ES2		
D202	8-719-200-82	DIODE	11ES2		
D203	8-719-200-82	DIODE	11ES2		
D302	8-719-933-33	DIODE	HZS6A1L		
D401	8-719-987-63	DIODE	1N4148M		
D402	8-719-987-63	DIODE	1N4148M		
D501	8-719-987-63	DIODE	1N4148M		
D502	8-719-987-63	DIODE	1N4148M		
D503	8-719-987-63	DIODE	1N4148M		
D504	8-719-987-63	DIODE	1N4148M		
D505	8-719-987-63	DIODE	1N4148M		
D506	8-719-987-63	DIODE	1N4148M		
D507	8-719-987-63	DIODE	1N4148M		
D508	8-719-987-63	DIODE	1N4148M		
D509	8-719-313-69	LED	SEL3210S-CD (EFFECT)		
D510	8-719-313-69	LED	SEL3210S-CD (DEMO)		
D511	8-719-301-38	LED	SEL2210S-C (1 HALL)		
D512	8-719-301-38	LED	SEL2210S-C (2 ORCHESTRA)		
D513	8-719-301-38	LED	SEL2210S-C (3 THEATER)		
D514	8-719-301-38	LED	SEL2210S-C (4 SIMULATED)		
D515	8-719-301-38	LED	SEL2210S-C (5 JAZZ CLUB)		
D516	8-719-301-38	LED	SEL2210S-C (GYM)		
D517	8-719-301-38	LED	SEL2210S-C (DISCO)		

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

MAIN PANEL POWER

Ref. No.	Part No.	Description	Remark
D518	8-719-301-38	LED SEL2210S-C (BGM)	
D519	8-719-301-38	LED SEL2210S-C (WM)	
D520	8-719-301-38	LED SEL2210S-C (CAR)	
D521	8-719-313-69	LED SEL3210S-CD (SELECT 10)	
D522	8-719-313-69	LED SEL3210S-CD (PERSONAL FILE 1-5)	
D523	8-719-313-69	LED SEL3210S-CD (MEMORY)	
D850	8-719-200-82	DIODE 11ES2	
D851	8-719-200-82	DIODE 11ES2	
D852	8-719-200-82	DIODE 11ES2	
D853	8-719-200-82	DIODE 11ES2	
D854	8-719-200-82	DIODE 11ES2	
D855	8-719-934-22	DIODE HZS30-2L	
D856	8-719-014-88	DIODE UZP-6.8BC	
D901	8-719-987-63	DIODE 1N4148M	
D902	8-719-987-63	DIODE 1N4148M	
D903	8-719-987-63	DIODE 1N4148M	
D904	8-719-987-63	DIODE 1N4148M	
D905	8-719-000-84	DIODE UZL-7M1	
D906	8-719-987-63	DIODE 1N4148M	
D907	8-719-000-84	DIODE UZL-7M1	

< FLUORESCENT INDICATOR >

Ref. No.	Part No.	Description	Remark
FL401	1-519-748-11	INDICATOR TUBE, FLUORESCENT	

< IC >

Ref. No.	Part No.	Description	Remark
IC101	8-759-634-51	IC M5218AP	
IC102	8-759-634-51	IC M5218AP	
IC201	8-759-801-01	IC LC4966	
IC202	8-759-634-51	IC M5218AP	
IC204	8-759-633-83	IC M50198P	
IC205	8-759-634-51	IC M5218AP	
IC206	8-759-801-01	IC LC4966	
IC301	8-759-822-26	IC LC7522K	
IC302	8-759-633-78	IC M5289P	
IC303	8-759-633-78	IC M5289P	
IC401	8-759-634-51	IC M5218AP	
IC402	8-759-822-27	IC LC7565K	
IC403	8-759-991-11	IC XR1091DCP	
IC452	8-759-822-27	IC LC7565K	
IC453	8-759-991-11	IC XR1091DCP	
IC501	8-759-073-59	IC uPD75106CW-206	
IC850	8-759-604-86	IC M5F7807	
IC851	8-759-604-90	IC M5F7907	
IC901	8-759-820-13	IC L78MR06	

< COMPOSITION CIRCUIT BLOCK >

Ref. No.	Part No.	Description	Remark
ICB401	1-232-956-11	COMPOSITION CIRCUIT BLOCK(100KX11)	
ICB402	1-232-956-11	COMPOSITION CIRCUIT BLOCK(100KX11)	
ICB403	1-232-956-11	COMPOSITION CIRCUIT BLOCK(100KX11)	
ICB404	1-232-956-11	COMPOSITION CIRCUIT BLOCK(100KX11)	

< COIL >

Ref. No.	Part No.	Description	Remark
L201	1-410-521-11	INDUCTOR 100uH	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remark
Q101	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q102	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q151	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q152	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q201	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q202	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q203	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q204	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q205	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q206	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q207	8-729-900-80	TRANSISTOR DTC114ES	
Q208	8-729-900-63	TRANSISTOR DTA124ES	
Q209	8-729-900-80	TRANSISTOR DTC114ES	
Q210	8-729-900-63	TRANSISTOR DTA124ES	
Q211	8-729-900-80	TRANSISTOR DTC114ES	
Q212	8-729-900-63	TRANSISTOR DTA124ES	
Q301	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q351	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q403	8-729-900-80	TRANSISTOR DTC114ES	
Q404	8-729-900-61	TRANSISTOR DTA114ES	
Q454	8-729-900-61	TRANSISTOR DTA114ES	
Q501	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q850	8-729-141-83	TRANSISTOR 2SB1094-LK	

< RESISTOR >

Ref. No.	Part No.	Description	Remark
R101	1-249-413-11	CARBON 470 5% 1/4W	
R102	1-249-437-11	CARBON 47K 5% 1/4W	
R103	1-249-437-11	CARBON 47K 5% 1/4W	
R104	1-249-429-11	CARBON 10K 5% 1/4W	
R105	1-249-429-11	CARBON 10K 5% 1/4W	
R106	1-249-425-11	CARBON 4.7K 5% 1/4W	
R107	1-249-427-11	CARBON 6.8K 5% 1/4W	
R108	1-249-440-11	CARBON 82K 5% 1/4W	
R109	1-249-432-11	CARBON 18K 5% 1/4W	
R110	1-249-429-11	CARBON 10K 5% 1/4W	
R111	1-249-429-11	CARBON 10K 5% 1/4W	
R112	1-249-424-11	CARBON 3.9K 5% 1/4W	
R113	1-247-852-11	CARBON 7.5K 5% 1/4W	
R151	1-249-413-11	CARBON 470 5% 1/4W	
R152	1-249-437-11	CARBON 47K 5% 1/4W	
R153	1-249-437-11	CARBON 47K 5% 1/4W	
R154	1-249-429-11	CARBON 10K 5% 1/4W	

Ref. No.	Part No.	Description				Remark
R155	1-249-429-11	CARBON	10K	5%	1/4W	
R156	1-249-425-11	CARBON	4.7K	5%	1/4W	
R157	1-249-427-11	CARBON	6.8K	5%	1/4W	
R158	1-249-440-11	CARBON	82K	5%	1/4W	
R159	1-249-432-11	CARBON	18K	5%	1/4W	
R160	1-249-429-11	CARBON	10K	5%	1/4W	
R161	1-249-429-11	CARBON	10K	5%	1/4W	
R162	1-249-424-11	CARBON	3.9K	5%	1/4W	
R163	1-247-852-11	CARBON	7.5K	5%	1/4W	
R201	1-249-429-11	CARBON	10K	5%	1/4W	
R202	1-249-429-11	CARBON	10K	5%	1/4W	
R203	1-249-429-11	CARBON	10K	5%	1/4W	
R204	1-249-429-11	CARBON	10K	5%	1/4W	
R205	1-249-426-11	CARBON	5.6K	5%	1/4W	
R206	1-249-431-11	CARBON	15K	5%	1/4W	
R207	1-249-429-11	CARBON	10K	5%	1/4W	
R208	1-249-431-11	CARBON	15K	5%	1/4W	
R209	1-249-431-11	CARBON	15K	5%	1/4W	
R210	1-249-429-11	CARBON	10K	5%	1/4W	
R211	1-249-431-11	CARBON	15K	5%	1/4W	
R212	1-247-903-00	CARBON	1M	5%	1/4W	
R213	1-249-426-11	CARBON	5.6K	5%	1/4W	
R214	1-249-429-11	CARBON	10K	5%	1/4W	
R215	1-249-426-11	CARBON	5.6K	5%	1/4W	
R216	1-249-429-11	CARBON	10K	5%	1/4W	
R217	1-249-420-11	CARBON	1.8K	5%	1/4W	
R218	1-249-429-11	CARBON	10K	5%	1/4W	
R219	1-249-435-11	CARBON	33K	5%	1/4W	
R220	1-249-435-11	CARBON	33K	5%	1/4W	
R221	1-249-425-11	CARBON	4.7K	5%	1/4W	
R222	1-249-435-11	CARBON	33K	5%	1/4W	
R223	1-249-435-11	CARBON	33K	5%	1/4W	
R224	1-249-425-11	CARBON	4.7K	5%	1/4W	
R225	1-249-435-11	CARBON	33K	5%	1/4W	
R226	1-249-435-11	CARBON	33K	5%	1/4W	
R227	1-249-425-11	CARBON	4.7K	5%	1/4W	
R228	1-249-441-11	CARBON	100K	5%	1/4W	
R229	1-249-417-11	CARBON	1K	5%	1/4W	
R230	1-249-437-11	CARBON	47K	5%	1/4W	
R231	1-249-437-11	CARBON	47K	5%	1/4W	
R232	1-249-429-11	CARBON	10K	5%	1/4W	
R233	1-249-429-11	CARBON	10K	5%	1/4W	
R234	1-249-429-11	CARBON	10K	5%	1/4W	
R235	1-249-429-11	CARBON	10K	5%	1/4W	
R236	1-249-429-11	CARBON	10K	5%	1/4W	
R237	1-249-429-11	CARBON	10K	5%	1/4W	
R238	1-249-429-11	CARBON	10K	5%	1/4W	
R239	1-249-433-11	CARBON	22K	5%	1/4W	
R242	1-249-425-11	CARBON	4.7K	5%	1/4W	
R245	1-249-425-11	CARBON	4.7K	5%	1/4W	
R246	1-249-425-11	CARBON	4.7K	5%	1/4W	
R256	1-249-426-11	CARBON	5.6K	5%	1/4W	
R257	1-249-425-11	CARBON	4.7K	5%	1/4W	
R261	1-249-433-11	CARBON	22K	5%	1/4W	
R301	1-247-903-00	CARBON	1M	5%	1/4W	
R302	1-247-903-00	CARBON	1M	5%	1/4W	
R303	1-247-903-00	CARBON	1M	5%	1/4W	
R304	1-247-903-00	CARBON	1M	5%	1/4W	
R305	1-247-903-00	CARBON	1M	5%	1/4W	
R306	1-247-903-00	CARBON	1M	5%	1/4W	
R307	1-247-903-00	CARBON	1M	5%	1/4W	
R308	1-247-903-00	CARBON	1M	5%	1/4W	
R309	1-247-903-00	CARBON	1M	5%	1/4W	
R310	1-247-903-00	CARBON	1M	5%	1/4W	
R311	1-247-903-00	CARBON	1M	5%	1/4W	
R312	1-247-903-00	CARBON	1M	5%	1/4W	
R313	1-247-903-00	CARBON	1M	5%	1/4W	
R314	1-247-903-00	CARBON	1M	5%	1/4W	
R315	1-247-852-11	CARBON	7.5K	5%	1/4W	
R316	1-249-416-11	CARBON	820	5%	1/4W	
R317	1-247-881-00	CARBON	120K	5%	1/4W	
R318	1-249-429-11	CARBON	10K	5%	1/4W	
R321	1-249-419-11	CARBON	1.5K	5%	1/4W	
R322	1-249-425-11	CARBON	4.7K	5%	1/4W	
R351	1-247-903-00	CARBON	1M	5%	1/4W	
R352	1-247-903-00	CARBON	1M	5%	1/4W	
R353	1-247-903-00	CARBON	1M	5%	1/4W	
R354	1-247-903-00	CARBON	1M	5%	1/4W	
R355	1-247-903-00	CARBON	1M	5%	1/4W	
R356	1-247-903-00	CARBON	1M	5%	1/4W	
R357	1-247-903-00	CARBON	1M	5%	1/4W	
R358	1-247-903-00	CARBON	1M	5%	1/4W	
R359	1-247-903-00	CARBON	1M	5%	1/4W	
R360	1-247-903-00	CARBON	1M	5%	1/4W	
R361	1-247-903-00	CARBON	1M	5%	1/4W	
R362	1-247-903-00	CARBON	1M	5%	1/4W	
R363	1-247-903-00	CARBON	1M	5%	1/4W	
R364	1-247-903-00	CARBON	1M	5%	1/4W	
R365	1-247-852-11	CARBON	7.5K	5%	1/4W	
R366	1-249-416-11	CARBON	820	5%	1/4W	
R367	1-247-881-00	CARBON	120K	5%	1/4W	
R368	1-249-429-11	CARBON	10K	5%	1/4W	
R401	1-249-433-11	CARBON	22K	5%	1/4W	
R402	1-249-410-11	CARBON	270	5%	1/4W	
R403	1-249-431-11	CARBON	15K	5%	1/4W	
R404	1-249-429-11	CARBON	10K	5%	1/4W	
R405	1-247-885-00	CARBON	180K	5%	1/4W	
R406	1-249-421-11	CARBON	2.2K	5%	1/4W	

Ref. No.	Part No.	Description	Remark
R409	1-249-432-11	CARBON 18K 5% 1/4W	
R410	1-247-881-00	CARBON 120K 5% 1/4W	
R411	1-247-881-00	CARBON 120K 5% 1/4W	
R413	1-249-441-11	CARBON 100K 5% 1/4W	
R414	1-247-840-00	CARBON 2.4K 5% 1/4W	
R451	1-249-433-11	CARBON 22K 5% 1/4W	
R459	1-249-432-11	CARBON 18K 5% 1/4W	
R460	1-247-881-00	CARBON 120K 5% 1/4W	
R461	1-247-881-00	CARBON 120K 5% 1/4W	
R463	1-249-441-11	CARBON 100K 5% 1/4W	
R464	1-249-419-11	CARBON 1.5K 5% 1/4W	
R501	1-249-417-11	CARBON 1K 5% 1/4W	
R502	1-249-437-11	CARBON 47K 5% 1/4W	
R503	1-249-417-11	CARBON 1K 5% 1/4W	
R504	1-249-437-11	CARBON 47K 5% 1/4W	
R505	1-249-417-11	CARBON 1K 5% 1/4W	
R506	1-249-437-11	CARBON 47K 5% 1/4W	
R507	1-249-417-11	CARBON 1K 5% 1/4W	
R508	1-249-437-11	CARBON 47K 5% 1/4W	
R509	1-249-440-11	CARBON 82K 5% 1/4W	
R511	1-249-410-11	CARBON 270 5% 1/4W	
R512	1-249-410-11	CARBON 270 5% 1/4W	
R513	1-249-414-11	CARBON 560 5% 1/4W	
R514	1-249-414-11	CARBON 560 5% 1/4W	
R515	1-249-414-11	CARBON 560 5% 1/4W	
R516	1-249-414-11	CARBON 560 5% 1/4W	
R517	1-249-414-11	CARBON 560 5% 1/4W	
R518	1-249-414-11	CARBON 560 5% 1/4W	
R519	1-249-414-11	CARBON 560 5% 1/4W	
R520	1-249-414-11	CARBON 560 5% 1/4W	
R521	1-249-414-11	CARBON 560 5% 1/4W	
R522	1-249-414-11	CARBON 560 5% 1/4W	
R523	1-249-410-11	CARBON 270 5% 1/4W	
R524	1-249-417-11	CARBON 1K 5% 1/4W	
R525	1-249-417-11	CARBON 1K 5% 1/4W	
R526	1-249-417-11	CARBON 1K 5% 1/4W	
R527	1-249-441-11	CARBON 100K 5% 1/4W	
R528	1-249-441-11	CARBON 100K 5% 1/4W	
R529	1-249-441-11	CARBON 100K 5% 1/4W	
R564	1-249-414-11	CARBON 560 5% 1/4W	
R565	1-249-414-11	CARBON 560 5% 1/4W	
R853	1-249-429-11	CARBON 10K 5% 1/4W	
R854	1-249-419-11	CARBON 1.5K 5% 1/4W	
R905	1-249-433-11	CARBON 22K 5% 1/4W	
R906	1-249-433-11	CARBON 22K 5% 1/4W	
R907	1-249-433-11	CARBON 22K 5% 1/4W	
R909	1-247-883-00	CARBON 150K 5% 1/4W	
R910	1-249-429-11	CARBON 10K 5% 1/4W	

Ref. No.	Part No.	Description	Remark
		< SWITCH >	
S501	1-554-303-21	SWITCH, TACTILE (EFFECT)	
S502	1-554-303-21	SWITCH, TACTILE (DEMO)	
S503	1-554-303-21	SWITCH, TACTILE (DISPLAY)	
S504	1-554-303-21	SWITCH, TACTILE (SURROUND MODE)	
S505	1-554-303-21	SWITCH, TACTILE (SURROUND LEVEL)	
S506	1-554-303-21	SWITCH, TACTILE (1 HALL)	
S507	1-554-303-21	SWITCH, TACTILE (2 ORCHESTRA)	
S508	1-554-303-21	SWITCH, TACTILE (3 THEATER)	
S509	1-554-303-21	SWITCH, TACTILE (4 SIMULATED)	
S510	1-554-303-21	SWITCH, TACTILE (5 JAZZ CLUB)	
S511	1-554-303-21	SWITCH, TACTILE (GYM)	
S512	1-554-303-21	SWITCH, TACTILE (DISCO)	
S513	1-554-303-21	SWITCH, TACTILE (BGM)	
S514	1-554-303-21	SWITCH, TACTILE (WM)	
S515	1-554-303-21	SWITCH, TACTILE (CAR)	
S516	1-554-303-21	SWITCH, TACTILE (REVERSE)	
S517	1-554-303-21	SWITCH, TACTILE (FLAT)	
S518	1-554-303-21	SWITCH, TACTILE (CURSOR CONTROL △)	
S519	1-554-303-21	SWITCH, TACTILE (CURSOR CONTROL ◁)	
S520	1-554-303-21	SWITCH, TACTILE (CURSOR CONTROL ▽)	
S521	1-554-303-21	SWITCH, TACTILE (CURSOR CONTROL ▷)	
S522	1-554-303-21	SWITCH, TACTILE (SELECT 10)	
S523	1-554-303-21	SWITCH, TACTILE (PERSONAL FILE 1-5)	
S524	1-554-303-21	SWITCH, TACTILE (MEMORY)	
⚠S850	1-572-716-11	SWITCH, PUSH (AC POWER) (POWER)	
		< VOLTAGE SELECTION >	
⚠VS850	1-572-367-11	SWITCH, VOLTAGE SELECTION (VOLTAGE SELECTOR) (A70)	
		< VIBRATOR >	
X201	1-567-818-21	VIBRATOR, CERAMIC (3.58MHz)	
X501	1-577-359-21	VIBRATOR, CERAMIC (4.19MHz)	

****

MISCELLANEOUS
****

Ref. No.	Part No.	Description	Remark
6	1-575-784-11	WIRE, FLAT TYPE (13 CORE)	
⚠18	1-690-056-11	CORD, POWER (AUS)	
⚠19	1-575-651-11	CORD, POWER (AEP, G, IT, EA)	
⚠20	1-575-656-11	CORD, POWER (E, TR)	
⚠21	1-575-669-21	CORD, POWER (UK)	
⚠T850	1-450-925-11	TRANSFORMER, POWER (UK)	
⚠T850	1-450-926-11	TRANSFORMER, POWER (AEP, G, IT)	
⚠T850	1-450-927-11	TRANSFORMER, POWER (A70)	

****

The components identified by
mark ⚠ or dotted line with mark
⚠ are critical for safety.
Replace only with part number
specified.

Ref. No.	Part No.	Description	Remark

****

HARDWARE LIST

****

Ref. No.	Part No.	Description	Remark
#1	7-682-548-04	SCREW +BVTT 3X8 (S)	
#2	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
#3	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#4	7-682-547-04	SCREW +BVTT 3X6 (S)	

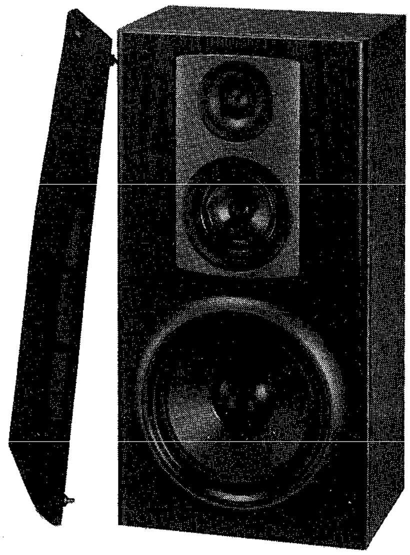
SS-A707

SERVICE MANUAL

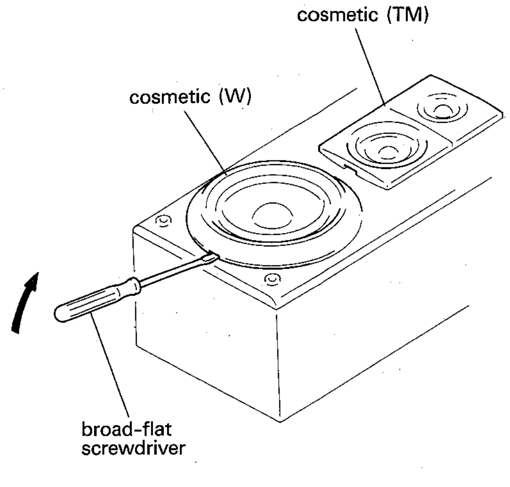
AEP Model
UK Model

SPECIFICATIONS

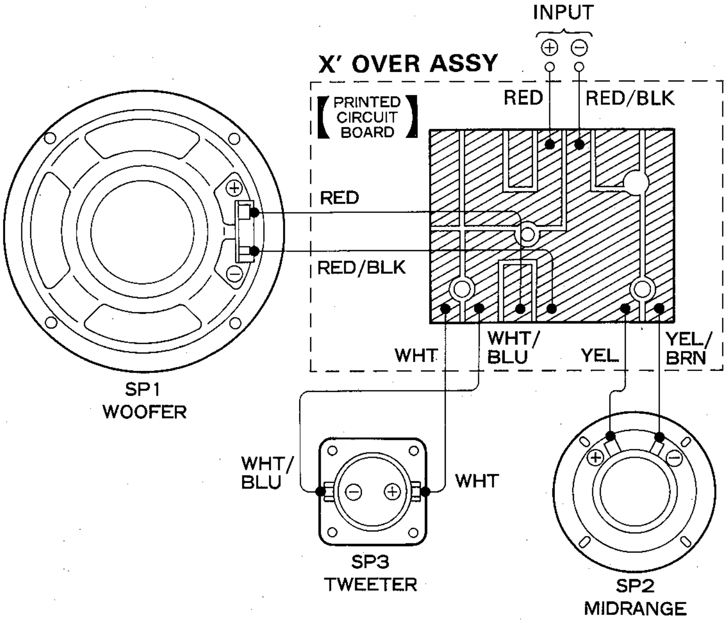
Speaker system	3-way speaker system
Speaker units	Woofer : 20cm cone type
	Midrange : 10cm cone type
	Tweeter : 2.5cm dome type
Enclosure type	Acoustic suspension
Nominal impedance	6Ω
Power handling capacity	
	Music 140W
Sensitivity	88dB (1W, 1m)
	6.3W (96dB, 1m)
Frequency range	40Hz to 20,000Hz
Dimensions	Approx. 280×540×255mm (w/h/d)
Weight	Approx. 8.5kg per speaker, net



1. REMOVAL OF COSMETIC


cosmetic (TM)
cosmetic (W)
broad-flat screwdriver

2. WIRING DIAGRAM


INPUT
⊕ ⊖
X' OVER ASSY
PRINTED CIRCUIT BOARD
RED
RED/BLK
RED
RED/BLK
WHT
WHT/ BLU
YEL
YEL/ BRN
SP1
WOOFER
WHT/ BLU
WHT
SP3
TWEETER
SP2
MIDRANGE

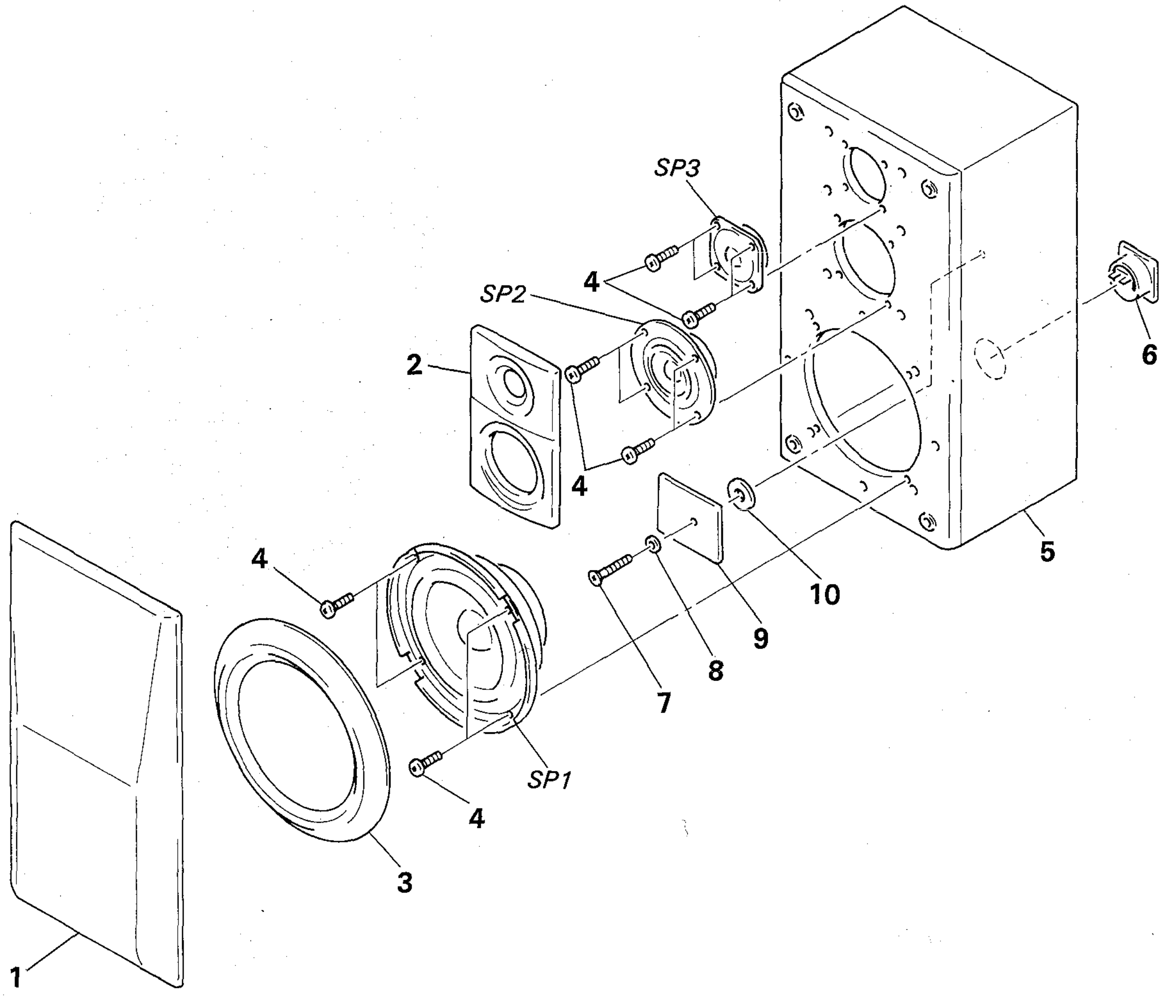
MICROFILM

SPEAKER SYSTEM

SONY®

3. EXPLODED VIEW AND PARTS LIST

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.



No.	Part No.	Description
1	T-8150-523-A	FRAME ASSY, GRILLE
2	T-8151-696-1	COSMETIC (TM)
3	T-8151-698-1	COSMETIC (W)
4	T-8150-573-1	SCREW (+P4.0×15), TAPPING
5	T-8150-527-A	BOX ASSY, SPEAKER
6	T-8151-042-1	TERMINAL BOARD
7	T-8151-858-1	SCREW (+K3. 0×40), TAPPING
8	6-081-002-20	WASHER (HARD PAPER)
9	T-8150-444-A	X'OVER ASSY
10	T-8150-809-1	WASHER (RUBBER CORK)

No.	Part No.	Description
SP1	T-8110-478-1	SPEAKER UNIT (WOOFER:20cm)
SP2	T-8110-475-1	SPEAKER UNIT (MIDRANGE:10cm)
SP3	T-8110-477-1	SPEAKER UNIT (TWEETER:2.5cm)

ACCESSORY & PACKING MATERIAL

Part No.	Description
T-8151-771-1	MANUAL, INSTRUCTION
T-8110-521-1	CORD, SPEAKER

Sony Corporation
Audio Group

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